

American **FORESTS**

The Magazine of Forests, Soil, Water, Wildlife, and Outdoor Recreation

MAY 1961

50 CENTS



Miss Bessie Wood, High School Science Teacher of Albany, New York

A School Teacher's Saga

"...THE HAPPY STRUGGLE"

SEE PAGE 12



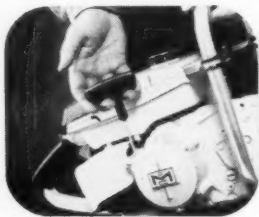
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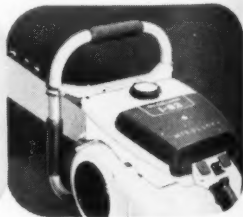
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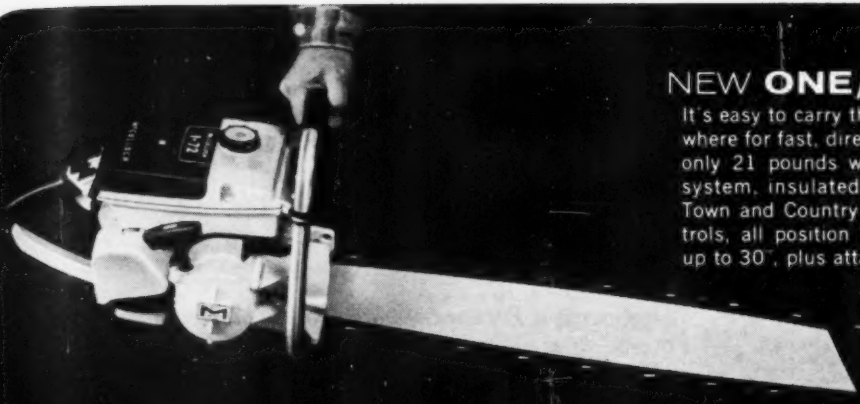


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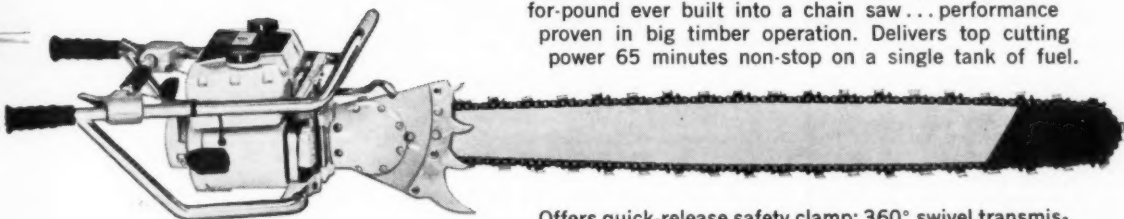
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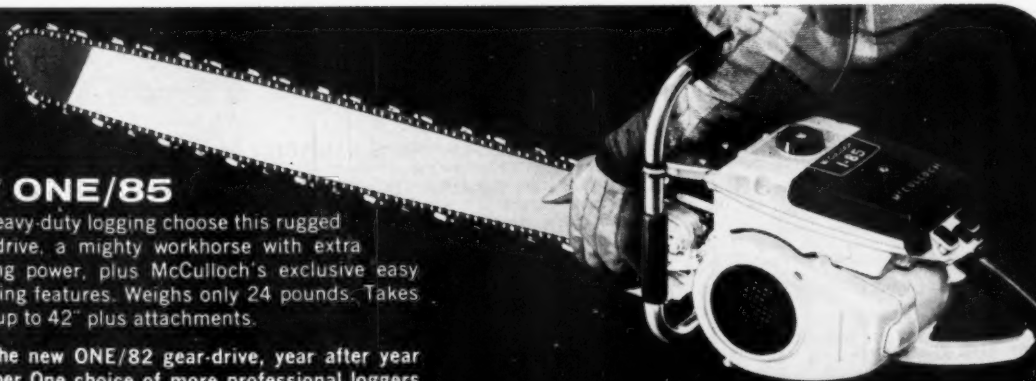


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James B. Craig
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Cover

Miss Bessie Wood, general science teacher (now retired) of Albany, New York, is a long-time member of AFA. Besides teaching, Miss Wood has devoted much time to the restoration of land and water resources on a New York camp for girls. Her experiences at the camp and her work with Indians in the West are recorded in her article, "... The Happy Struggle," page 12.

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Forest Forum

Rebuttal Refuted

EDITOR:

The rebuttals of my article by Mr. Arthur Pack and Mr. George A. Craig in the March issue of *AMERICAN FORESTS* are examples of the type of polemic approach which bedevils the problem of land use. The standard formula seems to be about 50% of veiled name-calling (he's naive, he's emotional, he's ill-informed, etc.), 25% straw men, and 25% pet ideas which are not relevant to the debate but which the writer can't miss the opportunity to expound.

In the "straw man" category is Mr. Pack's assertion that I "set up a mathematical formula . . ." and so "prove" that this land should be withdrawn. . . . He pretends that I said this, because it is so much easier to refute than what I actually said. In fact I set up no formulas (the title of the article was the editor's invention, not mine) and claim no proofs. Shorn of the supporting preamble, my argument can be summarized as follows:

1. Wilderness is something we want. (Mr. Pack explicitly agrees.)
2. We can't have both wilderness and logging on the same tract, so we must decide how much we want of each.
3. To make the decision rationally, one of the most important things we need to know is the economic cost, in lumber and in jobs, of withdrawing a given tract from production. A study with this particular orientation has seemingly not been made and is urgently needed. The sketchy investigation which I have been able to make suggests that the costs may be far smaller than we are commonly led to believe.

After the fact finding and the studies are completed there will always remain the value judgment, the weighing of the penalties and benefits. To repeat the words of the original article, "Everyone will not place the same relative weight on economic values and aesthetic values." But, it is hard to see how economic values can even be considered until we know quantitatively what they are.

Mr. Craig says that ". . . developed forests can and do take the place of virgin forests. . . ." So he avoids the whole nasty problem of deciding how much wilderness we need by implying that we don't need any!

C. K. Stedman
Enumclaw, Washington

Caustic Comments

EDITOR:

A few comments on two of the articles and one letter appearing in the March issue, somewhat caustic remarks, perhaps. The articles are: "Easy Solutions to Land Use Questioned," by Arthur N. Pack; and

"Water + Wood + Game + Recreation, = Logging," by George A. Craig.

Mr. Pack does bring out some obvious facts and some circumstances with benefits more fortunate than planned; such as, "nature took over and repaired the damage." True it is that nature, if allowed to do so, always does take over and repair the damage. Unfortunately, nature is one of the *slowest* workers known to man; and what is more unfortunate, we have no assurance that she will be allowed to do so.

In speaking of wilderness areas Mr. Pack further says, "Vast areas have been and are now so protected in their Forest Service jurisdiction. . . ." Up to this point, this is true enough, and as he points out, "That is good." Unfortunately again, I know of no guaranty that any part of them will remain so protected. Any such areas that are now "in their original state," are so only because the Forest Service has not yet gotten around to building fire roads into them. But the Forest Service *will* get around to it; and would probably be considered remiss in its duty if it did not do so. And a wilderness with a road in it is not a wilderness. As I understand it, these areas may be converted to "multiple use" at any time, at the whim of the Forest Service, or when it might become profitable for someone to exploit such an area and the pressures become too great. We, who support the Wilderness Bill, are asking only that we be given such a guaranty on a small part or parts of these areas; that they be officially set aside to remain untouched.

Now Mr. Craig's article: He states, "Logging has been an important tool in the development of the recreational uses of the national forests. . . ." Maybe so, but in the same sentence he further states, "and selective timber cutting is done in national parks." That statement is news and a complete surprise (not an altogether pleasant one) to me. If it is true, I wish to know more about it.

I take violent exception to his use of a quotation, apparently from Dr. Stedman. Mr. Craig writes, "These developed forests can and do 'take the place of virgin forests, streams and mountains which can be found only in the national parks and wilderness areas.'" The gimmick here is, of course, Mr. Craig's free-wheeling interpretation of the clause, "take the place of." To this I can offer only a flat contradiction. These developed forests do not "take the place of." They are only the next best substitute for. Admittedly they are, in some cases, a very good substitute, but they are always a substitute and never the real thing. This is not an argument or reason for the elimination of wilderness areas.

Again, in what he calls the "production" of game, Mr. Craig seems to argue that, since mature, virgin forests do not "pro-

duce" game, none should be allowed to stand. "Well-qualified zoologists," says Mr. Craig, "have classed virgin redwood forests as 'biological deserts.'" True enough. They are. Would anyone think of destroying those majestic trees for that or any other reason? Don't answer that. I have been well acquainted with a goodly number of people who would gladly destroy them for reasons much less commendable; one of them being, there is still a good market for redwood.

In another place Mr. Craig says, "This shows that 'multiple use' is inherent in land management." Let us willingly concede as much. Of course it is. What we are asking for are some comparatively small tracts of land which the managers are compelled, if they do not have sufficient good sense, to leave alone. We like it as it is.

Both Mr. Pack and Mr. Craig seem somewhat unduly worried about the possibilities of forest fires in wilderness areas. True, some will most likely be started in these areas, if only by lightning. Fire is one of nature's own ecological tools. It might be well to point out that the inconvenience of fighting these fires, due to their inaccessibility, can not get worse than it is now and always has been and it is a risk that we must take. Also, this discrepancy will change favorably as more fire-fighting is done from the air. The cost, in money, of airplanes and other equipment for fighting fires may seem excessive, but it seems not so great when the cost of roads and trails thereby made unnecessary is deducted from it.

Now for Gordon R. Cunningham's letter in the Forest Forum: "Why should an unmanaged—'wild'—forest area be more attractive than one which is managed intelligently for optimum perpetual production?" It seems to me that the only intelligent answer to that question is another question: More attractive to whom? Mr. Cunningham and all other opponents of the wilderness areas should, by now, be convinced that there is a goodly number of us who like the forest (some parts of it, at least) exactly as nature made it. We know we are a minority, like the Negroes and the Jews, and I suppose we should naturally expect some degree of the same treatment. Nevertheless, we also know that it is only a minor part of our wild lands for which we ask. If Mr. Cunningham will take a hike through one of those wilderness areas on any fine summer's day, I think he may find that we are not such a small minority, at that. The number of us that he will find there will already be very near the "too many" mark; and as everywhere else, the number will increase year by year.

Fred L. Davis
1021 E. Huron River Dr.
Belleville, Michigan

BACKWOODSMEN

I HAVE KNOWN

By INMAN F. ELDRIDGE

FORESTRY has been my life and living for more than a half century—and a good life and a fair living it has been—but, as the years have gone by, I have become increasingly aware that people, the people with whom I have worked and lived, have interested me as much as, if not more, than the inarticulate trees that paid my board and lodging. I like people, people of all kinds and in all walks of life; city people, townsmen, seafarers, crooks, criminals, and clergymen. But of them all, I have the warmest feeling for the folks of the backwoods. Somehow I understand them better, feel more at home in their company, and get a bigger kick out of knowing them.

I am going to tell you of a few of my favorite backwoodsmen. None of these men made more than a very modest contribution to our art, but each of them helped in some degree, at least, in making my forestry career less stodgy and monotonous than it might otherwise have been.

I shall start off with Hiram Hancock. In the late spring of 1906, just after the disastrous earthquake in San Francisco at which I had a ring-side seat, I was assigned by Bill Greeley, then supervisor of the Sequoia National Forest, to run out and mark the east boundaries of the Sierra and the adjoining Sequoia forests—a line extending for a hundred and fifty miles through desert country on the steep east flank of the Sierra Nevada range. The days were hot; the nights, cold; the terrain, heart breaking; and the lack of water, a problem from one end of the line to the other. Our crew of six was assembled with great difficulty because the world-renowned

Nevada gold strike was in full bloom, and wages were much higher than the government would allow us to pay. Two of our men, both prospectors, were shanghaied from the back room of a saloon in Bishop where they were sleeping off a prolonged spree. Among the others were two tall Mormon brothers, Hiram and George Hancock. Hiram, the elder, stood six feet four and was of the gaunt, dehydrated thinness common among "desert rats." He was no horseman, but had once walked with a companion from Bishop, California, to Salt Lake City across the pathless Nevada and Utah deserts, a jaunt of more than 500 miles, which would put any of the travels of David Crockett or Daniel Boone in the shade.

In the daily routine of running out and marking the boundary, it was Hiram's job to carry the sighting rod on ahead of the compass and when he had been signaled into the precise spot on the line, and while waiting for the chainmen to come up, to build a monument of the biggest rocks he could carry.

Now, I had provided myself with a pocket snake-bite kit, such as was used in those days but now discarded as worse than useless, and was anxious to try it out. We ran across many of the little desert rattlers, sidewinders, almost every day, but nobody seemed to get bit. One day the crew caught up with Hiram before he had finished his monument and we were in time to see him lift a fifty-pound boulder out of the ground to put on the pile. Hanging from his finger under the boulder was a good, fat sidewinder trying vigorously to recover its fangs from Hiram's hand. When our shouts



Inman F. Eldredge

On page 238 of the 1957 edition of *The Biltmore Immortals* appears a statement by Cap Eldredge (shown above) that is simply labeled "Speech." The address was made April 26, 1957, at Raleigh, N.C., on occasion of the dedication of the Schenck Memorial Forest. Somehow the speech had eluded our attention until one evening recently when we were leafing through the volume at home. In our opinion this is one of those forestry classics that deserves a wider circulation and accordingly it is presented herewith. We hope you'll like it.—Editor.

apprized him of the situation, he calmly dropped the boulder in place and flicked the snake off of his finger, just as you would throw the shaving suds off an old straight blade razor. Of course, I was Johnny on the spot with my pocket kit, and after pulling out the embedded fangs, started, as per directions, to slice open the fang holes with a sharp scalpel. Much to my chagrin, I discovered that I could not cut deep enough to draw blood. His fingers were calloused with a half inch of solid horn from weeks of rock grubbing, and I had to give up the project. The snake hadn't had any better luck than I, and the whole thing left us both frustrated. Hiram had no comment, he just killed the toothless snake and went on to his station ahead.

The wind blew hard all the time on that line, day and night, and on top of the many high ridges we had to cross, it blew a gale. On one occasion, as Hiram was building his monument on the top of a ridge, a heavy gust caught his hat and away it went, out over the desert far below. Now, Hiram was very fond of that hat, it was a huge, wide brimmed, ten-gallon black felt for which he had paid twenty dollars less than a year before. He stood like a statue and never took his eyes off that hat as it swept away into the distance. He got me to line up the still sailing hat and record the bearing. The next day being Sunday, he took the compass and walked six miles from our camp back to the monument on the ridge, laid off his course and followed it four miles down into the desert and found his hat. He said it was the best hat he had ever had, he liked it, and its recovery was worth the trip. Several weeks later when we had finished the job and had returned to Bishop and disbanded, Hiram still had his big, black hat; it was a mighty good hat and I wouldn't be too much surprised if he still has it.

In the winter of 1907, we were on the Hoopa Indian Reservation in extreme northwest California. A group of five youngsters from the Forest Service had been loaned to the Indian Service to cruise the timber and make a topographic map of the one hundred and forty thousand acre reservation. There I met and briefly knew Jim Hawks, a full-time professional mountain lion hunter.

We had been caught in a blizzard in the high mountains, and after sending our pack horses and most of our Indian crew down to the valley below, the rest of us took refuge in

(Turn to page 44)

From the

Christian Science Monitor

Thursday, April 13, 1961

From the Bookshelf

The Uses of Land . . . By H. H.

Minnesota Lands: Ownership, Use, and Management of Forests and Related Lands, by Samuel Trask Dana, John H. Allison, and Russell N. Cunningham. Washington, D.C.: American Forestry Association. 463 pp. \$5.

The question of private ownership of land versus public has been argued for many years, and no one book is going to settle the controversy. This one does not set out to do so, but its painstaking record of the management—and sometimes mismanagement—of Minnesota forest lands holds much of value to all the other states coping with similar problems.

To most citizens, the recurrent questions about land use have little meaning until land-taking reaches its long arm in to seize something close to home—until a new highway threatens to cut across a farmstead or imminent action looms on taking land from private owners to open up new areas for public recreation. Then citizen opinion becomes militant on the age-old issues.

Arguments for multiple use of land have gained strong footholds, but experience has shown that multiple use is practical only within logical limitations.

It might be possible, for instance, to expect a single tract to be used to grow timber, to mine minerals, to provide picnic and camping areas, to preserve wetlands for wildfowl and to save other habitats to perpetuate wildlife indispensable to the balance of nature.

But, in practice, scarcely any single area could provide all this at once.

Both experience and judgment are needed to make the right decisions as to how land may best be used. The pros and cons of the issues are conscientiously documented in this volume, which is a book for reference rather than mere reading.

As these writers show, responsibility for land management has been too scattered, too diverse, to allow the best development and use of land, not only in Minnesota, but throughout all the states.

They propose, for each state, "a Natural Resources Council appointed by the Governor with the advice and consent of the Senate, and consisting of representatives of state, county, federal, and private interests concerned with the ownership, use, and management of natural resources." The Council would be advisory, but it would provide an important step forward in bringing together all the interests involved which too often, intentionally or not, pull against each other rather than together.

The book is the second of three pilot studies undertaken by the American Forestry Association as part of a Program for American Forestry. The first study, made in California, was reported in 1958 in a book entitled "California Lands: Ownership, Use, and Management." A third land ownership study by the AFA is already under way in North Carolina.

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Preserving Natural Areas In England and the United States

By BETTY KINDLEBERGER

THE striking contrast in the land use history of England and the United States has resulted in different concepts of "natural areas," and, therefore, dissimilar approaches to the preservation and management of these resources. The underlying reasons for these differences and the purposes of each method of operation were the subject of an interesting forum presented by Resources for the Future, Inc. last month in Washington, D. C.

This forum was the second in a series being sponsored by RFF for the purpose of exploring the differences in the conservation policies of England and the United States. The previous one, reported in the March issue of *AMERICAN FORESTS*, compared the national park systems of the two countries. English national parks, it was learned, are not "owned" by the people but are simply delimited areas within which some control is exercised by the National Parks Commission over economic development in the interest of preserving the region's character. These areas include both private and government properties as well as villages and towns. Natural areas in England, on the other hand, have Crown Land status and are solely under the jurisdiction of the Nature Conservancy, which administers them as living museums and outdoor laboratories.

Here to explain the English policies on preserving natural areas was E. M. Nicholson, director general, the Nature Conservancy, London, while Edward H. Graham, director, Plant Technology Division, Soil Conservation Service, and Stanley A. Cain, professor of conservation, University of Michigan, suggested some British practices which might be well worth adopting in this country.

The term "natural area" by necessity has a different connotation in England than in the U. S., where it is used to describe a primitive area—that is, an area unaltered by man. In England, practically the entire countryside has been the victim of extreme changes by the hand of man for many centuries. However, the scientists believe that as much can be learned from these disturbed environments as from those little

changed by human action.

While the impact of man on primitive nature is plainly visible in the United States, Mr. Nicholson said, such evidence in England has been lost in the mists of history or legend. "Already by 675 A.D.," Mr. Nicholson observed, "persecution of wildlife had reached a pitch which led St. Cuthbert to establish on his Farne Island retreat off the Northumberland coast the oldest of European sanctuaries, which is maintained with loving vigilance to this day."

"Loss of wilderness was one of the urgent problems which faced King William the Conqueror when he inaugurated his new administration in 1066. He anticipated the American national parks by establishing a series of Royal Forests to conserve some of the last substantial remnants of English wilderness. These Royal Forests were closely and accurately demarcated and, on the whole, vigilantly and efficiently administered, under a code of law and management designed to conserve not only the deer and other wildlife but the habitat, or 'vert' as it was called. Unfortunately, apart from the New Forest and Wychwood Forest, nearly all our original series of officially conserved national areas have been filched away and destroyed."

However, despite this lengthy history of drastically disturbing natural resources, it is only in recent years the British government has taken action to correct the situation. The reason for this, Mr. Nicholson explained, "is that many of the problems on which public conservation policies are mainly founded in other countries thus exist in Britain only in a cryptic and elusive form. This explains why it has been left until after the Second World War for an official national conservation agency to emerge, and why its approach is less in terms of the great renewable economic resources than of wild nature and wild lands."

The national conservation agency is the Nature Conservancy, of which Mr. Nicholson is the director general. The Nature Conservancy was

created as a public corporation in March 1949 by a Royal Charter, and an Order in Council placed it under the supervision of a Privy Council Committee of Ministers under the Lord President of the Council. Later the same year an act conferred important acquisition powers, if necessary by compulsory purchase, for land for nature reserves. These nature reserves then received Crown Land status to defend them against expropriation, even if they were held not as freehold but under lease or by a statutory Nature Reserve Agreement from some other owner. Other legislation has broadened the Nature Conservancy's authority to the extent that its territorial interests not only include some 140 proposed National Nature Reserves but also some 1700 Sites of Special Scientific Interest.

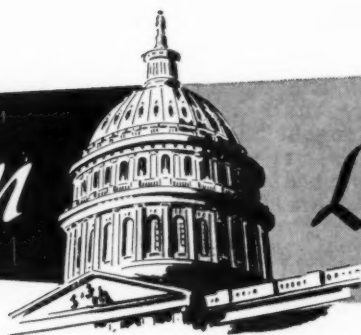
The Nature Conservancy's staff of 250 includes about 100 scientists who are engaged in scientific research and conservation. "The research program," Mr. Nicholson said, "includes certain items which have been requested to meet external problems, but with these few exceptions, it is designed as a comprehensive strategic attack on a range of ecological problems which are regarded as of fundamental significance for the advance of conservation. Clearly the correct choice of these problems and of the right people, sites, contexts, and resources for their successful pursuit is among the most critical of the conservancy's responsibilities."

The conservancy never engages in research which is being or can be conducted by universities and other groups, Mr. Nicholson declared, but it hopes, through its grants-in-aid program, to encourage progressively more outside studies in its general field. The conservancy regards its nature reserves as primarily living museums where scientific treasures can be permanently conserved in a flourishing state and as outdoor laboratories where they can be studied for the advancement of knowledge.

Mr. Nicholson compared the conservancy's initial task in establishing nature reserves to "that of a director of a newly-formed art gallery, whose

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Washington



Lookout

By ALBERT G. HALL

HOUSE CUTS FOREST FUND REQUEST. PRESIDENT

Kennedy's requested increases in the appropriations for the Department of the Interior and related agencies met with part way success in the House. The President has added \$59,380,000 to the budget request submitted by the Eisenhower Administration. The House Appropriations Committee pared off \$30,068,000, but, as reported and passed, the bill results in an increase of \$101,229,200 over the 1961 amounts.

THE FOUR PER CENT REDUCTION SHOULD HAVE NO

serious effects on the forestry activities of the Bureau of Land Management, Bureau of Indian Affairs, National Park Service and U.S. Forest Service programs. The Bureau of Land Management will have an increase of \$1,146,000 for its forestry program, and an increase of \$500,000 over 1961 for access roads and for fire facilities in Alaska. The committee disapproved a request for recreation facilities on the public domain, suggesting that the Bureau look first to the possibility of lease or sale of tracts of land for park purposes to the states or local jurisdictions.

BUREAU OF INDIAN AFFAIRS RECEIVED A CUT OF

\$227,000 from its resources management request but the Bureau's forestry program will receive an increase over 1961 of \$197,800 for timber sales administration.

FOR THE NATIONAL PARK SERVICE, THE HOUSE

approved an appropriation for management and protection of \$21,690,000, an increase of \$1,181,000 over 1961, but a decrease of \$1,100,000 from the revised budget estimate.

FOR THE U.S. FOREST SERVICE, A TOTAL APPROPRIATION OF \$194,728,000, A DECREASE

of \$4,326,000 below the budget request was approved. For national forest management, proposed increases in the Washington and regional offices were reduced by \$517,000, but the activity

as a whole was increased \$21 million over the 1961 figure. The House allowed \$22,978,000 for forest research, an increase of \$4,200,000 over 1961, and a decrease of \$300,000 from the revised budget request. State and private forestry cooperation activities were given an increase of \$3,091,200 over 1961, but \$509,000 less than the budget request, the cut being applied to cooperative fire control. For forest roads and trails the committee allows \$35 million and \$1 million for purchase of access roads.

CONCERN OVER THE HIGH COST OF FIGHTING FOR-

est fires was expressed by the committee. During the current fiscal year over \$42 million will be spent for fire fighting on public forest lands. As a result the committee has requested the Forest Service, in collaboration with the Bureau of Land Management, the Bureau of Indian Affairs, and the National Park Service, to undertake a study of the current organization and methods of fire control. The committee emphasized the possibility of savings that might result from the establishment of a federally-owned and operated airplane fleet.

THE PROPOSED "RESOURCES AND CONSERVATION

Act of 1961," a bill, S. 239, introduced by Senator Engle of California and some 30 other members received somewhat less than 100 per cent approval at hearings held in mid-April. Practically all private witnesses agreed that coordination of federal resources activities is needed, but some objected to the basic statement of policy placing major responsibility for resource development on all lands, public and private, in the federal government. The bill, in addition to establishing a broad conservation policy, would establish a Resources and Conservation Council in the Executive Office of the President, and a joint Senate-House

(Continued on next page)

Committee on Resources and Conservation. It would require the President to submit annually to Congress a report on resource conditions, trends and adequacy, a review of current programs and recommendations for new programs and legislation.

PRESIDENT KENNEDY HAS ALREADY ACTED ON THE

major measures in the bill. He has delivered a natural resources and conservation message and he plans to set up a Presidential Advisory Committee on Natural Resources under his Council of Economic Advisors. For this reason, among others, the Department of the Interior, the Department of Agriculture, and the Bureau of the Budget have reported to the Senate Committee on Interior and Insular Affairs that they do not believe the enactment of the Engle bill is necessary at this time.

A LABOR SPOKESMAN, REPRESENTING THE AFL-

CIO, stated that "the preservation, the prudent use and the wise development of our natural resources is an absolute responsibility of the federal government. . . . The private owners of natural resources must recognize that they are trustees for all the people; and the federal government must see to it that they so conduct themselves."

FOREST INDUSTRY AS REPRESENTED BY THE

American Pulpwood Association opposed passage of the bill as being unnecessary and its reporting aspects as "not feasible or required." As represented by the National Lumber Manufacturers Association, the industry expressed concern over the basic statement of policy and its implications, but went on record as supporting the basic objectives of coordination and review of federal conservation policies and of seeking the continued orderly development and wise use of natural resources. The lumber industry spoke for a Presidential Commission on Natural Resources composed of Cabinet members concerned with natural resource problems and administration. The Chamber of Commerce of the United States disagreed that the federal government has primary responsibility in the development of natural resources, and stated that the bill otherwise is unnecessary.

FULL SUPPORT FOR THE MEASURE WAS GIVEN BY

the National Association of Soil Conservation Districts, League of Women Voters, the National Rural Electric Cooperative Association, the American Public Power Association, the Citizens

Committee on Natural Resources, C. Girard Davidson, former Assistant Secretary of the Interior, and others.

A NEW PATTERN IN FEDERAL-STATE WILDLIFE

management is being established by Interior Secretary Stewart L. Udall. The newly designated 58,868-acre Caliente National Cooperative Land and Wildlife Management Area in south-central California is comprised of federal public lands placed under a three-way management plan. Interior's Bureau of Land Management and Fish and Wildlife Service will administer the area in cooperation with the state of California. The land is withdrawn from application under the land laws, but may be open to mineral leasing and grazing if such uses are compatible with the wildlife management objective. Twenty-five similar proposals comprising 850,000 acres in California are also being considered. Purpose is to develop cooperatively the wildlife, recreational and other natural resources.

A RURAL DEVELOPMENT PROGRAM, ANNOUNCED BY

Secretary of Agriculture Orville L. Freeman will seek to emphasize programs affecting entire communities in rural areas and will include rural electrification, credit provisions, forestry, small watershed development, area studies and agricultural extension. A Rural Development Board, being set up by the Secretary will coordinate the activities of 11 departmental agencies. One of the major aims of the program will be the development of rural industries to bolster employment.

KLAMATH FOREST PURCHASE FUNDS AMOUNTING TO

\$68,073,000 have been approved by the House. This is the appraised price of some 525,000 acres of Klamath Indian lands which, after purchase, will be added to the national forest system. The 525,000 acres is that part of the Klamath forest lands not purchased by private persons following the termination of federal trusteeship of the Klamath Tribe. Only one sale under the restrictive covenants was made—a sale amounting to \$1,636,182. Much of the federally acquired forest is being placed in a new national forest, named after Winema, a heroine of the Modoc War, the Winema National Forest. The new national forest, with headquarters at Klamath Falls, Ore., will include about 419,000 additional acres, three adjoining national forests, and about 100,000 acres of the Klamath land will be added to the Fremont National Forest.

Reaching for the Stars

Our ideological differences being as deep-rooted as they are, it is a sore temptation to many Americans to depreciate the latest scientific achievement by the Russians. At the same time, most of us know instinctively in our own hearts that any such effort just won't wash. Regardless of who did it, and we might wish it had been someone else, we have just witnessed a great scientific achievement—some call it the greatest of all time.

Briefly, on April 12 Communist scientists sent a very cool-appearing young army major into space at almost unbelievable speed and then brought him safely home to Mother Russia after his space ship had circled the earth in a reported 89.1 minutes. Not only did the scientists bring their human guinea pig home but they also brought him home intact.

Thus, the Russians who electrified the world on October 4, 1957, by opening the space age with Sputnik 1 have now followed up by what must be regarded as individual man's first clear-cut triumph over space—a breakthrough that may well open the planets to exploration by men from earth.

This is a truly tremendous thing. The only comparable analogy one can think of is Col. Lindbergh's historic flight across the Atlantic on May 20, 1927. That might not look like much to young people of today, but if they will examine the air-going "flivver" "Lindy" made his hop in at the Smithsonian Institution and remember that it had never been done before, successfully, they will get the idea—that plus the fact that many people shook their heads and said the Good Lord did not intend to have people flying the Atlantic.

The day "Lindy" made it, the writer was a school boy at an old academy in upstate New York. Professor Ed-

wards called the student body to assembly even as the flight was in progress. He was very excited. "There will be those," he said, "who will call this luck but it is no such thing. It represents precision planning, execution, and courage at its best and "Lindy" today is opening up an entire new, vast unexplored area for mankind. Remember that."

Most people would agree today that the professor was right, which they did not necessarily do at the time, and that, moreover, this latest Russian achievement is cut out of the same historic cloth. When Major Gagarin shot into space, where even a minor miscalculation could have resulted in his being fried to a crisp, he must have been accompanied in spirit by every bold discoverer who ever lived—Columbus, Magellan, Lewis and Clark, and yes, Lindy, himself. Even as they, the major dared as much as will others from both of our countries who will follow him. The truth is that the Gagarins of today are eternally reaching for the stars and it is now more than just a sporting chance that they may actually reach them. One knows, in his bones, that this is true and that it has always been true.

Some might ask what does this have to do with natural resources and the answer is that it has everything to do with them. The march of science will depend more and more on the resources on and in the earth and whether we have those resources in sufficient abundance. Consequently, the exploit of the first "cosmonaut" should do more than simply excite our admiration. It should also inspire us to do more than just enough in managing the resources for which we are responsible wisely and well.

As the young Mr. Kitchin comments in his article on page 16, "My motto is 'Do It Now!'" We think he has a good point there.

A Salute to our Teachers

In their book, *The Federal Lands*, Marion Clawson and Burnell Held made the observation, "... There is no semiprofessional, general public interest group comparable to The American Forestry Association."

Granted that this is true, and we have had others including visiting friends from abroad tell us the same thing, there must be a reason for it. And that reason, we believe, is found in the type of people who belong to the association and stick with us year after year.

All in all it's a heterogeneous group representing many lines of work. All have one conviction in common, namely, that it is our duty to advance the intelligent management of and use of forests and related resources of soil, water, wildlife, and outdoor recreation. Members of the association, now totalling 32,500 people, have been preaching this doctrine for 86 years.

One group that has quietly contributed much without great fanfare comprises our school teachers, now numbering about 3,000 members. When one adds up their years of service plus the impact they have made on the minds

of thousands of boys and girls, he begins to appreciate just how much teachers have accomplished for conservation.

Our salute to our teachers this month is embodied in the cover story on the work of Miss Bessie Wood, of Albany, New York, who hasn't missed an annual meeting since the New York State convention in 1935. In addition to her work as a biology teacher (now called general science), she has worked with the Indians out west and for years has been the driving spirit behind the restoration of land and water resources on a New York State camp for girls that originally was just about worthless.

But Miss Wood can tell her own story much better than we can and she does so, starting on page 12 of this issue. This is one teacher's conservation saga and we are convinced it can be multiplied thousands of times all over America. It all adds up to a sizable achievement for conservation. It also adds up to the fact that our teachers are just about the most worthwhile people that there are. AMERICAN FORESTS salutes them.

HOUGH

Man of Approved Attainments

By CHARLES EDGAR RANDALL

IT was a whopping big job that Congress set up 85 years ago for the U.S. Government's first forestry official.

He should "prosecute investigations and inquiries," Congress said, "with the view of ascertaining:

"The annual amount of consumption, importation, and exportation of timber and other forest products; "The probable supply for future wants;

"The means best adapted to their preservation and renewal;

"The influence of forests upon climate; and,

"The measures that have been successfully applied in foreign countries, or that may be deemed applicable in this country, for the preservation and restoration or planting of forests."

He should prepare a report on these matters, to be transmitted to Congress. And he should do all this within one year.

To take on this huge assignment, Congress called for "some man of approved attainments, who is particularly well acquainted with methods of statistical inquiry, and who has evinced an intimate acquaintance with questions relating to the national wants in regard to timber."

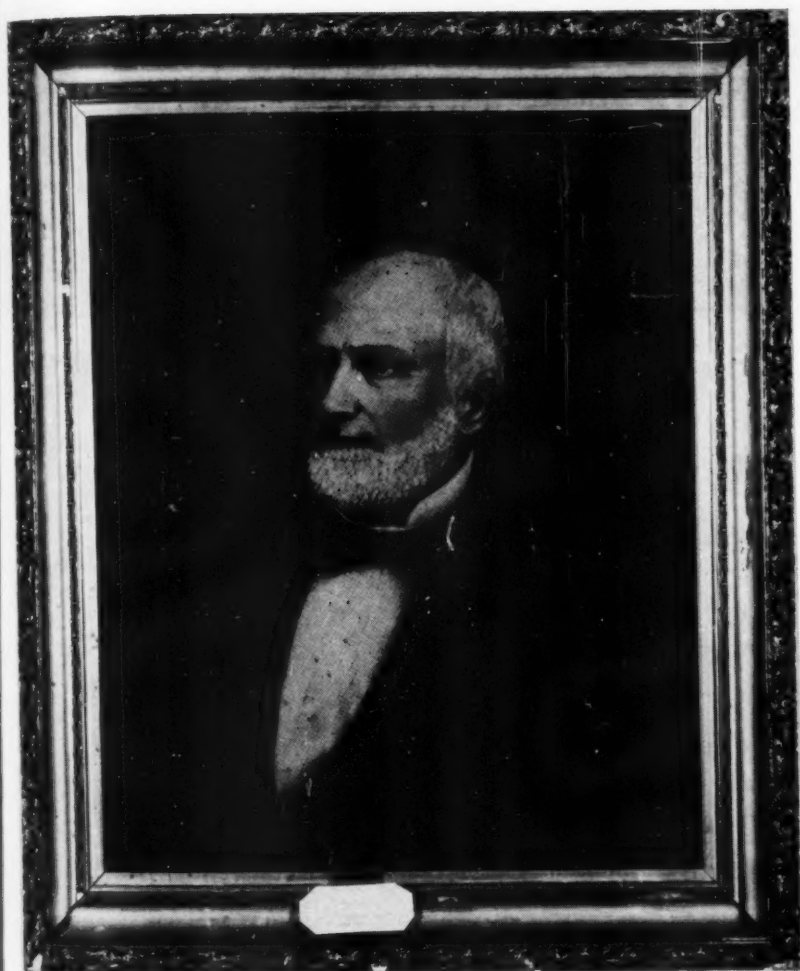
Such a "man of approved attainments" was at hand. He was Dr. Franklin Benjamin Hough. It had been largely through Dr. Hough's efforts, indeed, that Congress had authorized this first governmental venture in the field of forestry. He was a charter member of The American Forestry Association and served as treasurer under Founder John A. Warder.

Dr. Hough was a man of wide interests and varied experience. He had been trained in the medical profession, and served as a surgeon in the Civil War. He had achieved prominence in several fields—as a

botanist, a mineralogist, a statistician, and compiler of history. And his was one of the earliest and strongest voices raised during the nineteenth century for the preservation, protection, and restoration of America's forests. He has been called the "Father of American Forestry."

The way to get yourself appointed on a committee, of course, is to make a motion that a committee be appointed. This, in effect, is what Dr. Hough had done. In 1873 at a meeting of the American Association for the Advancement of Science, in Portland, Maine, he had presented a paper on "The Duty of Governments in the Preservation of Forests."

As he addressed the scientists, Dr. Hough painted a word picture of "sunburnt and sterile plains" where traces of man's first civilization are found, areas in the Old World that were once highly cultivated and densely populated, but now were



Franklin B. Hough

arid wastes. "We cannot account for the changes that have occurred," he said, "... except by ascribing them to the improvident acts of man in destroying the trees and plants which once clothed the surface and sheltered it from the sun and winds. As this shelter was removed, the desert approached, gaining new power as its area increased, until it crept over vast regions once populated and fertile, and left only the ruins of former magnificence."

His paper went on to describe existing forest conditions in the United States. He pointed to the need for laws to promote and protect the growth of wood. "I would venture

to suggest," he concluded, "that this association might properly take measures for bringing to the notice of our several state governments, and Congress with respect to the territories, the subject of protection to the forests, and their cultivation, regulation, and encouragement."

The committee that was appointed by the AAAS as a result of Dr. Hough's presentation, as would be expected, had Dr. Hough as its chairman. Other committee members included some of the most eminent scientists of the day: George B. Emerson, Boston educator and scholar in "natural philosophy"; Professor Asa Gray of Harvard Uni-

versity, one of the nineteenth century's greatest botanists; Lewis H. Morgan, anthropologist, of Rochester, N.Y., authority on the American Indians; Professor J. S. Newberry of Columbia University, geologist; Professor J. D. Whitney of Harvard, formerly State Geologist of California (Mount Whitney, highest peak of the Sierra Nevada was named in his honor); Colonel Charles Whittlesey of Cleveland, Ohio, noted for discoveries in paleobotany; Professor E. W. Hilgard of the University of Michigan, chemist and soil scientist, who would later become first director of the agricultural experiment station at the University of California; and Professor William H. Brewer of Yale, agricultural scientist, who would later have a leading part in organizing the Yale Forestry School.

Although Dr. Hough's paper had proposed the presentation of a memorial to the state legislatures, the committee decided that the memorial should first be brought before the U.S. Congress. Dr. Hough and George B. Emerson were designated to prepare the statement in the name of the American Association for the Advancement of Science. Their draft received prompt approval of the full committee, and in January, 1874, the two men set forth with it to the nation's capital.

President Ulysses S. Grant gave the memorial his cordial approval. On February 19, he transmitted it in a special message to Congress. Each house of the Congress referred it to its Committee on Public Lands. Within a month, the House of Representatives' committee brought out a bill providing for the appointment of a Commissioner of Forestry in the Federal Government. The Senate committee, however, failed to report on the matter, and the session closed without action.

In the next session (the 44th Congress), the bill was reintroduced by Representative Mark H. Dunnell of Minnesota. Organization of The American Forestry Association in September, 1875, added a strong voice in support of Congressional action. But Congress still showed no disposition to hurry the bill along. As a last resort, in the closing days of the session, Mr. Dunnell succeeded in getting some provisions of his bill adopted as an amendment to the act making appropriations for the legislative, execu-

(Turn to page 41)



A School Teacher's Saga

“... THE HAPPY STRUGGLE”

Miss Bessie Wood (left) a biology teacher who hasn't missed an AFA meeting since 1935, photographed these riders (lower left) during one of the summers she spent working on the Apache Indian Reservation

By BESSIE WOOD

IT would take an electronic microscope to see the small speck of forestry this poor person has done in comparison to the millions of trees I have seen growing across these United States.

Without the very pleasant and helpful trips I have enjoyed with The American Forestry Association each year, I would have had little for comparison. My knowing about your magazine all came about when a boy in my high school science classes some thirty-five years ago, brought to class a copy of your magazine which his father had loaned him. (Knowledge doesn't always come from behind the desk, you know.)

That magazine just appealed to me. We ordered it at once for our science library. As copies have accumulated over the years, the pictures and stories were studied by hundreds of pupils. Many showed an interest in conservation and were encouraged to write for literature

to colleges giving such courses or to order small trees from the advertisements.

For years we had a separate annex for freshman in Troy High, and found it to be a blessing. With an assembly program, we could control our movies as in a private school. We ordered many beautiful travel, conservation, and forestry pictures which could serve both the English and social studies teachers, as well as my own subject. We obtained these from both state and federal governments as well as many lumber companies such as Weyerhaeuser and Crown Zellerbach.

A little more encouragement came my way when your magazine published my prize picture, "Riders of the Rim," at the top of the article called "T. R. Trail Blazes," (AMERICAN FORESTS—July, 1930). Again in 1934 and 1935, you had divided the six Apache Indians and horses into two photos and used them to caption "Around the States."

It is always a pleasure to see one's own pictures in print. Miss Emsing and I had spent six summers (1925-1931) with the Apache Indians in New Mexico near Roswell.

The Reformed Church needed extra hands in the summer while the missionaries went on vacation. These Indians were relatives of Geronimo and they afforded us quite a change from our eastern ways. The boys had just been roping wild horses when I called them up on the hill at sunset for this picture.

I began to read about your annual meetings. They looked interesting, but what teacher could get away in September or October? Be that as it may, I attended my first meeting in 1935, the year in which President Franklin D. Roosevelt dedicated Whiteface Mountain Road in the Adirondacks.

That really set the pattern. I heard "Ding" Darling and met some of the fine outdoors foresters and made friends whom I thought to be

Girls at Camp Pinnacle start out to plant some small trees from the Saratoga Nursery. Over fifty thousand red, white, and Scotch pine have been planted at 800-acre camp.



An Apache baby on Indian Reservation where Miss Wood has worked 6 summers



above the average. Conservation came alive for me and I have attended meetings of AFA from Dismal Swamp, Virginia, to Jacksonville, Florida, and West Virginia; from Ohio, and Wisconsin to the shores of the Oregon coast. Soon my friends got the fever, too. There were five of us on the memorable trip two years ago on your special train from Chicago to the Grand Canyon, Tucson, and the Mexican Border. In fact that trip, when I read about it in *AMERICAN FORESTS*, hastened my school retirement. My superiors in high school were most generous in giving me time off for such an educational trip each fall; but this one was just too far so I resigned in June in order to go to Tucson.

Few teachers could have had the good fortune, as I did, of being accompanied on such trips by their former high school biology teacher. Miss Adda Wemple enjoyed not only your western trip but the one in 1959 to Bedford Springs, Pennsylvania, and the Monongahela Forest and the 4,440-mile trip four of us made to join you for the meeting in Mississippi this past year.

Miss Wemple was truly a great teacher and presented her pinnately and palmately leaf specimens and drawings so I couldn't forget these words or any of the other clever lessons in biology she taught. Some of the enthusiasm of her teaching rubbed off on me and I knew then what I wanted to teach when I finished high school and college.

After finishing State Teachers College at Albany, I was fortunate to live where I could reach the

source of supplies in the State Conservation Offices. My classroom at Troy High always had pamphlets, pledges, pins, and posters from their department, along with all their movies.

In 1922 our biology classes were sufficiently interested in forestry to order from the state (Saratoga Nursery) one thousand white pine to plant at a girls' camp (Camp Pinnacle) in the Helderbergs, twenty-five miles away.

What a Saturday's trip that was! With not too much thought of broken bones or what might happen, we loaded about twenty-five boys and girls in an old open truck and took them within about three miles of the camp. They walked up the old mountain road and groaned up the steepest hills, across lots, and somehow managed to get the pines planted right side up. I can prove that statement for they are beautiful, tall pines today. On the four hundred acres the camp then owned other students planted in other years.

In all, we have about fifty thousand white, red, and Scotch pine. This is hardly worth mentioning in forestry circles, but just those few trees planted by teenagers gave them pleasure. This is evidenced by the fact that some of those who came back to camp after many years wanted to go straight up to the plantings and see how much they had grown.

The camp now numbers about eight hundred acres. We still do some selective planting such as arborvitae, Norway spruce, Austrian pine, and red cedar. My favorite is *Abies Concolor* or white fir. Every February we put in our order with the Soil Conservation District for berry bearing shrubs to attract wildlife; multiflora roses, high bush cranberry, Tartarian honeysuckle, nannyberry, wild plum, etc. Birds stop over and feed on these in great numbers.

Government Survey, which is the highest point in this part of the Helderbergs (1823 feet) is just above camp and commands a wonderful view of the Mohawk and Hudson valleys. The state capital, seventeen miles away, is easily seen from our buildings, as well as the city of Schenectady, and Union College.

Because of this height, all the broadcasting stations have their towers on the perimeter of our camp land. They include WRGB, Gen-

eral Electric's powerful TV Station, and Troy's FM station which broadcasts fine music to area banks, hotels, etc. In fact one other station controlled by the New York Central sends signals from our mountain top to its trains moving in the yards between Albany and Schenectady.

What marvels of communication go forth from these old limestone cliffs that once housed a scattering of Dutch settlers trying to make a living from their layer of not too fertile soil and at the same time pay the rents which the patroons demanded. The Helderberg War, or Rent War, of 1839 put an end to that source of trouble.

Much of the soil has seeped away through large fissures in the rocks. Barely an inch of good topsoil covers the shale and limestone. Red oak, maples, birches, hemlock, and white pines are now coming back as second growth. The camp land was completely lumbered off about fifty-five years ago.

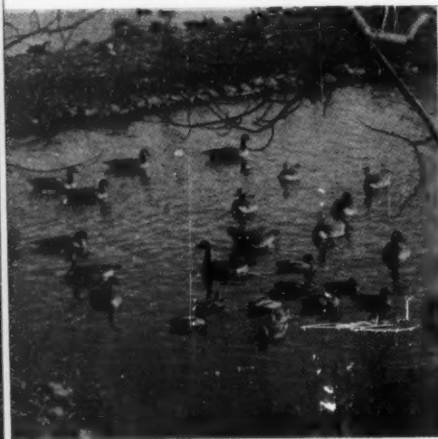
There must have been quite a number of chestnut trees, judging from the massive stumps still standing. However, the men who set up a sawmill right in the backyard cared little for the area and took every available foot of timber.

It was a shabby, scraggly, sorry sight that met the eyes of two fine women in 1914 when Mrs. Harriett K. Christie, who had just made a trip around the world, and Miss Lucy Jones, a returned YW Secretary to India, stood looking at this desolated old sawmill. They wondered if they could ever make young women happy in such a place. There was only one farmhouse but this was offset by a perfect view. Previous to their trips they had started the first camp for girls in the United States (1898) just two miles away at the Indian Ladder. However, the view outweighed the other drawbacks and summer after summer more girls came. At night they marveled over the shimmering lights of the cities below and enjoyed the white tents with wooden floors. Rain or even a friendly skunk didn't dampen their enthusiasm.

The girls loved picnic suppers on Sunset Hill. They watched the sun go down and then listened to strange missionary stories from foreign lands.

No trees blocked the view, none would grow upon that round shaly hill. Beyond Indian Ladder we saw the Adirondacks, and the Greens of Vermont, then the White mountains

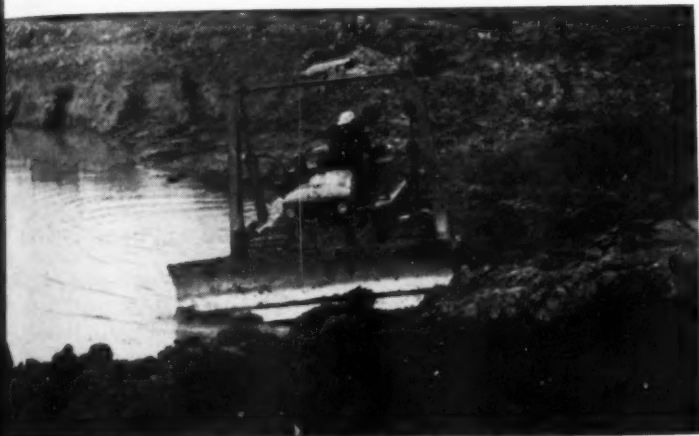
Wild ducks and geese often stop at the ponds on their fall migrations



and to the east, the Berkshires, and finally the blue ridges of the Catskills. Do you wonder that my one week of camping in 1916 has stretched from then until 1961?

One little spring producing two gallons of water per minute was the sole source of water for the camp except an eighteen-foot well by the house. This well is no longer used.

I heard many prayers for water



Bulldozer digging 40'x80' pool at camp to insure adequate water supply

and requests to give gifts for the digging of a well. My contribution was fifty cents, begged from my father (allowances were not in vogue in those days). A two hundred and sixty foot well was drilled and a four gallon a minute (Bailer Test) flow was obtained. This has never dried up in all these years.

We had a view but the nearest lake was two miles away. There wasn't a single stream to dam up. We contacted every person in the area who had ever built a pool, including the builders of the wonderful Reservation Pool at Saratoga Springs.

It was true that we were the highest point in the Helderbergs. Of course, water ran off from all sides of the mountain, what could we expect? Well! We expected miracles! We did find a contractor friend who would build a 40-by-80-foot pool with a large sand filter for \$3200. We must use the ninety thousand gallons of water over and over and chlorinate it. It was late in the spring of 1946 when Mr. Kilby finished it. Where would we get the water? No one dared to touch the well. He started to draw water in a

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Miss Wood inspected new Southern Forest Experiment Station, Gulfport, Miss., with AFA members



Camp Pinnacle owns the upper fields as far as the eye can see. Arrows mark boundary



North Carolina youth is alarmed at slow progress in conservation of our natural resources. Says it's imperative that we act now.

WILL future generations know what we mean in our books which they read when we talk of "top soil," "clean rivers," forests," or "fields?" At the rate we are going, the answer is an emphatic *NO!*

Our rivers and streams are being greatly polluted by industries and factories each month. Some states are passing state laws placing rivers under classification in an effort to eliminate pollution by towns and industries. (My own state of North Carolina has a similar law and is one of the first states passing such laws.) I hate pollution.

Topsoil is being used and is not being replaced after it is taken from the land. No cover crop is planted, and the previously rich land is now barren, desolate, bare, and useless. This is the work of civilization as we know it. It should also be the task of civilization to take care of its own land, now.

I don't care what apologists may say to the contrary, our forests are being used tragically. They are being destroyed by forest fires, used up by lumber companies, destroyed by many uninformed farmers; all-in-all, they are being destroyed by

man, who, by destroying nature, is destroying himself. I have seen this myself.

The reason a businessman has his cabin in the woods, or goes on his fishing trips, is that man is a child of nature. As we lose this nature, we become artificial, until we ourselves are no longer a part of this creation, but a part of our own creation, a part of artificiality. I don't like artificial people.

We have no excuse for not acting now on this problem. Because of our knowledge, we cannot plead ignorance as an excuse. Therefore, we must bring about a cure for this plague. This cure lies in *LAWS*, either state or federal, which will be enforced.

Many of our national parks are being jeopardized by powerful, private commercial groups (and even departments of the government) as these groups attempt to make use of the land regardless of harm which may come to it. They seem to care little about the preservation of nature. These careless attempts of commercial groups to utilize our remnants of nature must at least be strictly limited if not ceased. If you

A SIXTEEN-YEAR- OLD LOOKS AT CONSERVATION

By WILLIAM KITCHIN

use everything up, there will not be anything left.

If commercial groups do not intrude upon the park scene, smaller businesses do. As we attempt to build up our parks, whether by means of smaller businesses or by commercial powers, we only succeed in blemishing them. As a result, instead of being wildlife sanctuaries, our parks and natural monuments are in the infant stage of their trip into artificiality. Originally, the parks had unique plans to prevent man from noticeably intruding upon them and disturbing nature's serenity. But now, many of these same parks harbor huge motels, resorts, fishing marinas, and other originally taboo man-made intrusions. In short, our national parks have become amusement centers in every sense of the word. I don't like artificial parks. I don't think Mr. Drury would have liked them, either.

The National Park Service was created in 1916 and set very high objectives. They are pledged to "conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of same by such means as will

leave them unimpaired for the enjoyment of future generations." Judging from the "amusement centers" which we call national parks, we tend to try to dispose of any harmful elements in the environment. For example, wolves are almost completely destroyed at Mt. McKinley National Park. As the wolves are exterminated, the deer multiply, unharmed, and soon there are so many of them that they begin to starve. Other parks are fortunate enough to have the comical bear for the amusement of the spectators. Because of this quality, the bear is allowed to exist in disproportionately large numbers. As a result, the bear becomes a nuisance to surrounding areas.

Riding along the road of the narrow islands of the outer banks of North Carolina is one of the most inspirational of all things in which I have ever indulged myself. Seeing the wide, desolate sand beaches, the sea gulls over the dunes of sea grass blowing against a background of crashing waves and blue ocean could hardly be other than inspiring. To see the wild horses running along

the wide beaches is breathtakingly beautiful.

At the present time, the outer banks are maintained as a state park.

Many years ago, when the Indians inhabited the outer banks, there was a very high hill at Hatteras on which the Indians lived. Since those times, the hill has blown away and the sand of the islands has greatly shifted. At one time it was feared that the islands might be completely washed away. Then the North Carolina government stepped in and has planted acres and acres of sea grass, which has greatly reduced the shifting of the outer banks. The planting of the sea grass is still in progress.

Great numbers of people visit the outer banks for a vacation, these people being attracted from all over the country and Canada. Each year the number of vacationers increases; therefore, access to the outer banks must be improved. In other words, in addition to the state maintained ferries, bridges will be built for better, quicker service to the outer banks, the eastern-most point of this hemisphere. These improved facilities for transportation make the

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About the Author

William Kitchin, 16, of RFD 2, Wake Forest, N.C., is regarded locally as a promising young man. Active in school affairs, he is also an acolyte at the local church and never misses a 9 o'clock service. He writes a column entitled "Comments" for the *Wake Weekly* which is widely read. AFA President Don Johnston, also a resident of Wake Forest, became interested when the young writer did a piece on the recent Water Pollution Conference in Washington based in part on Senator Robert S. Kerr's "fountain of death" statement. He is intensely interested in conservation and particularly pollution. As Cal Coolidge commented on the pastor who preached on the subject of sin, "He's against it." Another week, however, will find him vigorously protesting against the barbarism of Iredell county residents who gained a sort of national notoriety when they tried to beat to death all the rabbits in the county. When AMERICAN FORESTS invited Columnist Kitchin to do a piece for it, he accepted with alacrity and the result is presented on these pages. We have one comment. When his vigorous manuscript hit our desk like a breath of fresh air, we decided the future of conservation is not as bleak as it might seem so long as aggressive young men like William Kitchin are coming along. We think you'll agree.—Editor



William Kitchin

MULTIPLE USE MULTIPLE USE MULTIPLE USE MULTIPLE USE MULTIPLE USE MULTIPLE USE MULTIPLE USE IS A REALITY

By PAUL E. NEFF

Supervisor, Mt. Hood National Forest

A leading instructor in semantics impressed me with the idea that the meaning of a message is not in the message itself, but in the nervous systems of the sender and the receiver. Perhaps this is something that we all should know, but often, I think, we forget that the sender of a message has not successfully completed his communication, unless the receiver has understood the message. Many of us have a tendency to become irritated when we are misunderstood, when in reality, we have failed in our communication responsibility.

We folks in the technical forestry business, who are responsible for the protection and administration of national forests, are often guilty of just this error. We use terms which are clear to us, but which may easily be misunderstood by people outside the field of forestry. One such term

which falls into this category is "multiple use."

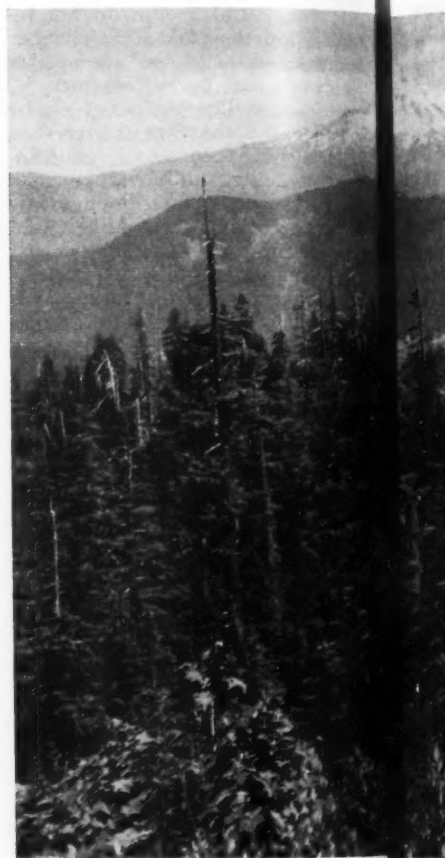
Multiple use is on the tip of most foresters' tongues these days. It has recently received recognition by Congress as a policy for the administration and management of national forest lands.

Multiple use means different things to different people, and means very little to some. The term is easily misused and misunderstood. Quite often this occurs because the sender and the receiver of the message are not "tuned in" on the same "frequency." I would like to discuss multiple use and its application to national forest lands.

The definition of multiple use has been established by Act of Congress. Public Law 86-517 defines multiple use as "The management of all the various renewable surface resources of the national forests so

that they are utilized in the combination that will best meet the needs of the American people, making the most judicious use of the land for some, or all of these resources, or related services over areas large enough to provide sufficient latitude for periodic adjustment in use to conform to changing needs and conditions; that some land will be used for less than all of the resources, and harmonious and coordinated management of the various resources each with the other without impairment of the productivity of the land; with consideration being given to the relative values from the various resources, and not necessarily the combination of uses that will give the greatest dollar return for the greatest unit output."

Now, let me see if I can cite some examples of what we mean by multiple use.





The 2.7 million annual visits by forest users to Mt. Hood National Forest bear out the great recreational demand. Therefore, many areas throughout the forest must be managed primarily for recreation.

The harvesting of timber and its manufacture into the various wood and paper products represents a very substantial part of the economy of the West. This is particularly true for the areas west of the Cascades in Oregon. Here, in many localities, timber products constitute more than half of the total economy of the area. It's not difficult to see that harvesting the timber resource is of major economic importance. Because of the history of the development of forest lands, the more accessible private timber lands have been first to be harvested; consequently, the demand is falling more and more upon the national forests. Just what proportion of the timber, or how much, should come from the national forest, is a debatable question, but it is a certainty that for now, and the foreseeable future, a major portion of the timber for the forest

product industry must come from the national forests.

The forest is a dynamic, living thing. It does not stand still. It is continually changing. The forests grow from seedlings to mature timber to old-age timber, and ultimately die and are replaced in the course of time. If mature timber is not harvested by man, it will be harvested by Mother Nature. Mother Nature's methods of fire, insects, and disease are ruthless and wasteful. Timber harvesting in accordance with timber management plans, and in amounts which are replaced by new growth from year to year, is just plain good business, and provides continuous crops of forest products. Many areas of the national forest are, and should continue to be, managed for the principle purpose of the production of timber. A large proportion of the timber is harvested in

relatively small, clear-cut patches, or blocks, and after cutting and disposal of slash and debris, the areas are replanted, and a new living and changing forest has started. This cutting procedure in blocks, or staggered settings, as the loggers call them, has been found to be a proper way to harvest timber and insure a new crop. The system provides maximum utilization with a minimum of loss from wind and other destructive elements, and permits the establishment of an even-aged stand where Douglasfir does its best.

The people of the United States have just recently "found" the national forests. We read about the population explosion, the increase in demands for more recreation because of additional leisure time. It's easy to see that the recreational pressures on the national forests and the

(Turn to page 53)



The late Aldo Leopold assisted in research project to measure actual deer damage to natural forest reproduction

THE February issue of *AMERICAN FORESTS* contains an article by E. S. Hurd of Consolidated Water Power and Paper Company of Wisconsin entitled "Deer, Trees, and People." The article begins: "During the past two years a rebellion has hit Wisconsin..." and then proceeds to the present dilemma of keeping the state's deer population in reasonable balance with a healthy growth of young forest.

Historically, deer were an explosive issue in Wisconsin fifty years ago, when the prophets of the time were convinced that the whitetail deer would become all but extinct in a relatively short time. Because of this devotion to their welfare—which is a credit to mankind's better nature—whitetail have thrived to the point of contributing to their own destruction. But through the years, with measured groundswells, this interest has produced more overnight experts, more haloed crusaders, and has prompted more indignation meetings, and caused more ink to flow in flamboyant editorials, and inflamed more demagogues and jeopardized more constructive legislation than all other conservation headaches combined.

The early interest in deer led to a one-buck law, and soon afterward deer hunting was allowed only every other year. During the 1920's and the early thirties, with the advent of forest fire protection and the regeneration of new forests, plus improved law enforcement, the herd began to

They Laughed At Us

By ERNEST SWIFT
National Wildlife Federation

grow beyond the carrying capacity of the range. Cases of winter starvation were noted as early as 1930, but the very idea of too many deer was fiercely denied.

In 1933, another agency entered on the Wisconsin scene. Two national forests had been established, and with the coming of the CCC camps the U.S. Forest Service moved in actively to administer these forests. Some rangers transferred from other national forests had already been exposed to the problem of too many deer for the available range. They soon recognized the signs in Wisconsin and set up research projects to ascertain the facts.

With ready manpower now available, the first deer census work in Wisconsin was started by the U.S. Forest Service to determine deer populations, deer kill on the national forests during a hunting season, winter yard conditions and die-off, and other technical checks.

Taking a deer census was not only a new-fangled idea to the public but it split the Wisconsin Conservation Department right down the middle. Census counts were barely begun

when rumors became current that they were a camouflage to drive deer into the refuges in order to deprive the hunter. Some very high counts of deer came from this census work. The skeptics claimed they were falsifications, and those issuing these counts should be prosecuted.

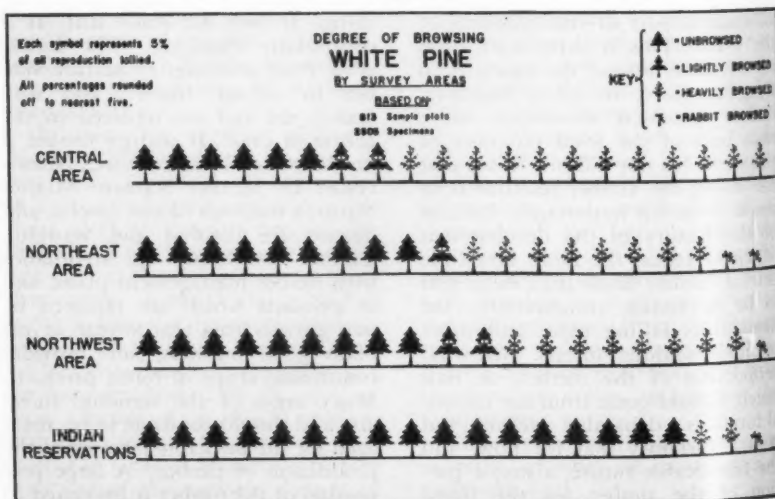
"Foreign" Service Assailed

The Wisconsin department suddenly broke out in a rash of confused statements. They ranged from disbelief to outright jealousy of the United States "Foreign" Service, as some caustically called the rangers. A minority welcomed new ideas from beyond the state's boundaries.

In 1935, the Wisconsin department, with its tongue in its cheek, started to census deer with the aid of CCC personnel. They began to come up with about the same figures as those of the Forest Service, and when released, this fact painted both services with the same brush.

In 1936, while a "Save the Deer Club" was developing a full head of steam throughout the state, a representative of the Forest Service created general consternation by an-

Table I



nouncing that 14,000 deer of both sexes would have to be killed on some 600,000 acres in the Chequamegon National Forest; and this was during the month of January when the deer were yarded.

That some reduction was necessary from the standpoint of management cannot be argued; but the number to be killed was arbitrary and the time of the year was wrong. With no preparation for public acceptance, this recommendation threw any prospect of deer management into chaos and nearly returned it back to the dark ages.

However, the pieces were picked up and slowly reassembled. In 1939, a Pittman-Robertson project for deer research was authorized by the commission, and by 1943 Wisconsin had a split deer hunting season: 4 days of buck hunting, followed by a 4-day rest period, and then a 4-day antlerless season. Over 128,000 deer were killed, or nearly three times the number killed annually in prior buck seasons.

The fierce hubbub over this season finally subsided, and the department made an attempt to obtain legislation allowing greater latitude in management, namely, the "unit system." The hunting public at that time was suspicious of any regulation that might complicate hunting; all they could understand was a buck season or an any-deer season. The unit system was not going to be swallowed without considerable debate. It was argued that such fancy ideas gave the department too much authority.

Resorts a Blind Spot

One of the biggest blind spots in attempting to promote sane deer management was the summer resort areas. They wanted deer running helter-skelter all over the landscape. As matters stood, many of these resort regions were greatly overpopulated with deer and heavy winter losses resulted from a shortage of winter feed. However, the resort interests forced through legislation that would make it mandatory for the department to feed deer during the heavy snow months. This legislation was effective for more than fifteen years, resulting in the utter waste of thousands upon thousands of conservation dollars.

Those involved in deer management for the department realized that the state could not stand an any-deer season every year throughout the recognized range, but a buck season was also inadequate. With a continued any-deer season, many accessible areas would be over-shot and other regions would have little or no hunting pressure. A highly volatile public continued to deny any latitude for proper management.

During these years the tensions developed over deer management had no seasonal fluctuations—they were constant. Certain individuals became crusading champions for no deer reduction and more feeding, and their misguided hysteria, sometimes cleverly aided by sympathizers within the department, kept the pot boiling. There were times when it seemed as if every man,

woman, and child in the entire state had gotten into the act.

The department continued to increase its fact-finding and for several winters wardens and game men were teamed together to explore, map, and report on every deer yard in the state. This effort brought out the fact that in the northern third of the state the deer during the yarding months were concentrated on only ten per cent of the land area; in other words, that small acreage had to supply all the winter feed. That was the crux of the whole situation. Ten per cent did not supply enough feed; therefore, starvation occurred annually with continued deterioration of the winter yards.

Through these hectic years the professional foresters working for the state and private industry had studiously stayed aloof from entering this rather bloody arena of conflict. Some condemned the game division for not solving the problem; others even ridiculed the idea that extreme reproduction damage was occurring. Some foresters in private industry stated that advocating deer-herd reduction would damage the public relations of their companies. And while the foresters stood on the side lines congratulating themselves that it was not their fight, the vocal opposition was accusing the department of being in league with the pulp and paper companies.

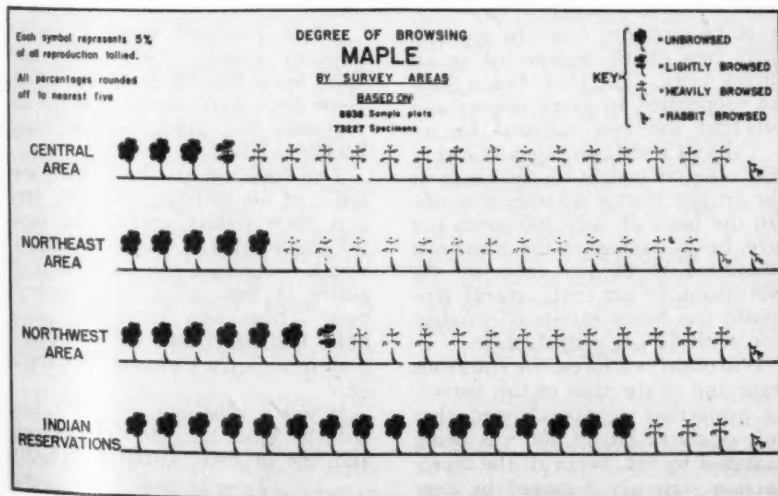
In 1945, on a directive from the commission, I wrote a rather extensive brochure, "A History of Wisconsin Deer." The editorial comment which followed was very favorable and had a substantial effect in supporting more liberal seasons. But something still more factual and dynamic was needed; something infallible by way of proof.

It was then that Professor Aldo Leopold, head of the Wisconsin University Game Management School and a member of the Wisconsin Conservation Commission, and I conceived the idea of attempting a research project to measure actual deer damage to natural reproduction, a project which would eliminate all guess work. Because his knowledge of the difficulties was far greater than mine, Leopold was somewhat skeptical at first.

Drive For Facts

We found no precedent, and so far as we could determine, no survey

Table II



Lac du Flambeau Indian Reservation figures are:

(All figures are Percentages)	Current			Heavy Past Browning	Hare Browning	Total Specimens Tallied	No. Plots Containing Tally	Average Stocking per Acre (all browse classes)
	Unbrowsed	Browsed	Heavily Browsed					
Conifers	91.7	2.1	1.0	1.3	4.9	1358	110	617
Hardwoods	82.5	2.0	1.7	6.1	9.4	1234	112	551
Totals	87.4	2.0	1.3	3.5	7.1	2592	152	852
Hemlock	93.2	.8	.4	3.2	2.8	247	23	580
Cedar	83.5	3.7	1.2	.4	12.4	241	11	1096
White Pine	86.7	4.6	3.6	1.5	7.2	194	47	206
Hard Maple	91.7	1.5	1.1	4.2	2.6	458	30	763

The Indian's tribal rights allowed him to hunt deer of either sex the year around, so deer population on the reservation is naturally much lower than in areas outside reservation

of a similar type had ever been conducted in the United States. For too long those interested in deer-forest relations had guessed at facts, bickered, relied on hearsay and casual observations tainted by personal prejudices. What we wanted were the facts!

Drawing up specifications prior to any field work took nearly a year. We drew on the experience of many professionals, including the Forest Service personnel and finally enlisted the aid of the late S. R. Gevorkiantz, nationally recognized forestry statistician of the Lakes States Forest Experiment Station. With his advice and guidance we were certain that our methods and accuracy limits would meet the approval of any game or forest technician in the United States. The following points were enunciated:

1) The reproduction of commercially-important species was to be examined on 4,800,000 acres.

2) Only areas under some form of forest management, and therefore committed to a program of continuous forest production, would be included in the survey.

3) No attempt would be made to pass through known areas of deer concentrations but, rather, to sample a proportionate amount of both summer and winter range.

4) All sample plots were to be mechanically placed along previously laid out transects. There were to be three 3-mile courses, each having sample plots of 1/50 acre, each laid out for every 23,000 acres of managed forest. The transects were laid out by the use of type maps and aerial photos. Each field crew of two men, a game technician and a forester, could not alternate or change.

5) Tallies were made only on reproduction between one foot and

eight feet in height. (The one-foot-and-under class was eliminated because it was normally snow-covered during the heaviest browsing period.) When a specimen had its terminal bud removed or one-third of the crown clipped, it was classified as being heavily browsed.

6) To arrive at a minimum desired reproduction stocking which would apply to all forest areas and all forest interests was a difficult task. Finally an arbitrary figure of 500 stems to the acre was set. It was too low to satisfy many commercial foresters, but could be lived with by game men. In this instance the deer were favored.

7) Because some foresters had concluded that hemlock and cedar were no longer reproducing in Wisconsin, two Indian reservations where deer hunting under treaty was permitted the year 'round, were used as yard sticks. The comparisons proved very enlightening.

Approximately a year was spent in perfecting the techniques of the survey, plus one spring of "dry-runs" to make sure they could be applied; then two spring seasons of actual survey work. The U. S. Forest Service cooperated in every respect and surveyed the two national forests.

Tables I and II on pages 20 and 21 give a better insight on the result of the project than a volume of words. On the basis of only 500 stems per acre, heavy damage in the Northeast amounted to 21 per cent; in the Northwest, 18 per cent; central Wisconsin was below minimum production with 60 per cent damage.

Wisconsin is a forest fire conscious state, and at the time of this survey, its protection agency claimed that only one acre out of 500 was being damaged by fire. Were all the reproduction seriously damaged by deer

to be gathered in one block we would find that deer each year cripple one out of every five acres.

Torch Not Picked Up

The team work and esprit de corps to develop and finish this survey was as fine as one could ask, and it seemed a foregone conclusion that private forest industry would recognize its worth and come forth en masse as active participants of deer management. But industry did not see fit to pick up the torch and the department was left with only its scattered backing to deal with the resort interests and those influenced by them.

The survey did develop some extremists who decided that an any-deer season every year throughout the recognized deer country was the only and ultimate solution. The department, on the other hand, had been fighting for an any-deer season, but did not advocate this operation into infinity. It was no more the answer than a continued buck season.

There followed three successive any-deer seasons; 1949, 1950, and 1951. Some 460,000 deer were killed. Some areas were overshot, as the department had predicted, and some hardly touched.

The backlash of these three seasons, of slaughtering mother deer and their babies, rocked the capitol dome with a hue and cry to wreak vengeance on any and all guilty of advocating such wickedness. Those who made the most noise had never seen a winter yard strewn with the carcasses of starved deer.

It was a rebellion, all right, but not the kind Mr. Hurd speaks of, and one or two oldtimers formerly

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Reading
about

RESOURCES



By MONROE BUSH

Shore Season

WITH summer coming on, our reading will take to new directions. The months of the long days, and gradual dusk reaching almost to bedtime, are for vacation and escape. And vacation is invariably the pursuit of new interests, by means of which we escape those old concerns and tired problems that cluttered up the winter.

The best of all new interests is to take a fresh look at the world at our feet, to see, as if for the first time, the natural life surrounding us. However much we may have studied it, there is more to know. However closely we may have lived with nature, we remain strangers to its incredible mystery.

The excitement of summer is the excitement of discovery. To adventure in nature is to use summer as it was meant to be used. A few good books of natural history as a guide, and easy, limitless hours in the sun as our laboratory, are the stuff of which the happiest vacations are made.

For the ocean-bound, no more interesting book could be recommended than *A Gathering of Shore Birds* by Henry Marion Hall, edited by Roland C. Clement, and illustrated by John Henry Dick (Devon-Adair, N.Y., 1960. 242 pp. \$10.00). This is not intended to replace whichever standard field guide you prefer, but neither is it a supplement. That would suggest secondary data, and nothing here is secondary. *A Gathering of Shore Birds* is a creative presentation of those scientific perceptions that give us modern men the opportunity to see birds as more than mere shape, coloring, and name. This is a serious orientation, for the intent student, into the origins and life-patterns of shore birds (British "waders"). It is a teacher

that can take us a long way—further than any field guide—toward actually understanding these remarkable creatures.

Roland Clement's introduction is chock-full of both the unusual and the fundamental. His description of the three eras of bird-watching helps each of us identify his own interest: Phase I, collecting; Phase II, cataloguing by field-glasses; Phase III, the just-begun study of individual and group behavior. It is to this last and newest phase that the book is dedicated.

"What we have tried to do," writes Clement, "is to bring Dr. Hall's essays up to date in a series of comments on recent changes of status which have occurred, and to interpolate some of the more readable scientific commentaries gleaned from a perusal of an extensive literature in order to introduce the non-professional reader to a particularly attractive group of birds."

Following a brief section on "Shore Bird Families"—perhaps too brief for clarity—the book proceeds through fifty-seven essays on as many birds. Dr. Hall has such intimate knowledge of the ecology of these birds—in so far as it is understood at all—that each piece introduces a truly ecological "feel" for its subject. The reader perceives these shore birds as but part of a greater whole.

In addition to the text, certain specific data is supplied at the end of each of the short essays: the Latin name, the date and author of the bird's first description, local names, if any, field characters [sic: — istics], and range.

Admittedly shore birds are among the most interesting of all winged creatures. Considering the proximity of about 80 per cent of the American people to their range, the search for

a better understanding of them this summer, with a strong assist from a book of this kind, is a reasonable and exciting challenge to us all

New and To Note

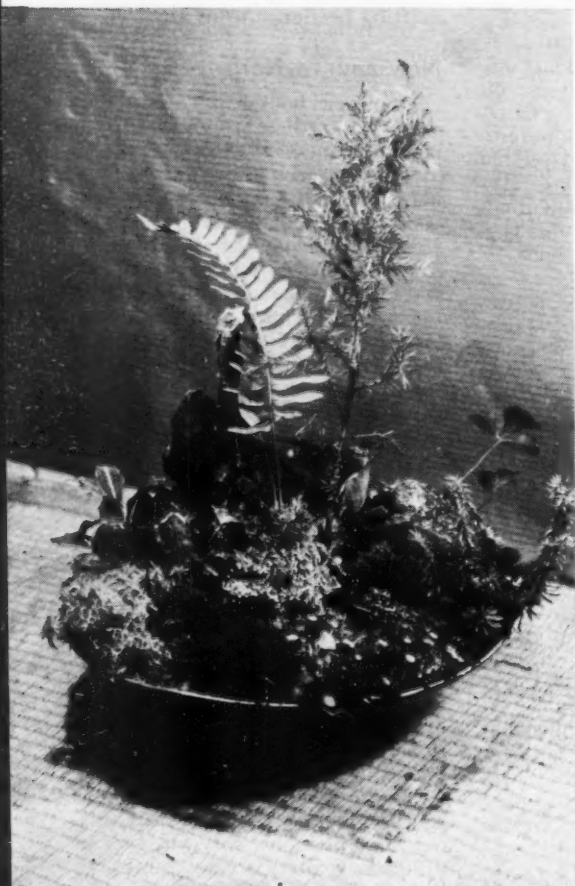
Four new books on various flora are at hand, three of which will appeal to laymen.

I am greatly impressed by *The Fern Guide* by Edgar T. Wherry (Doubleday & Co., 1961. 318 pp. \$3.95). Meticulously illustrated in pen-and-ink drawings by James C. W. Chen, this handbook embraces 135 species of ferns found in north-eastern and midland United States and adjacent regions of Canada. Some concentration is necessary to familiarize one's self with the material here—this is definitely a guide to be studied before dashing into the field. But once "at home" in the book, it promises to prove a completely satisfactory tool.

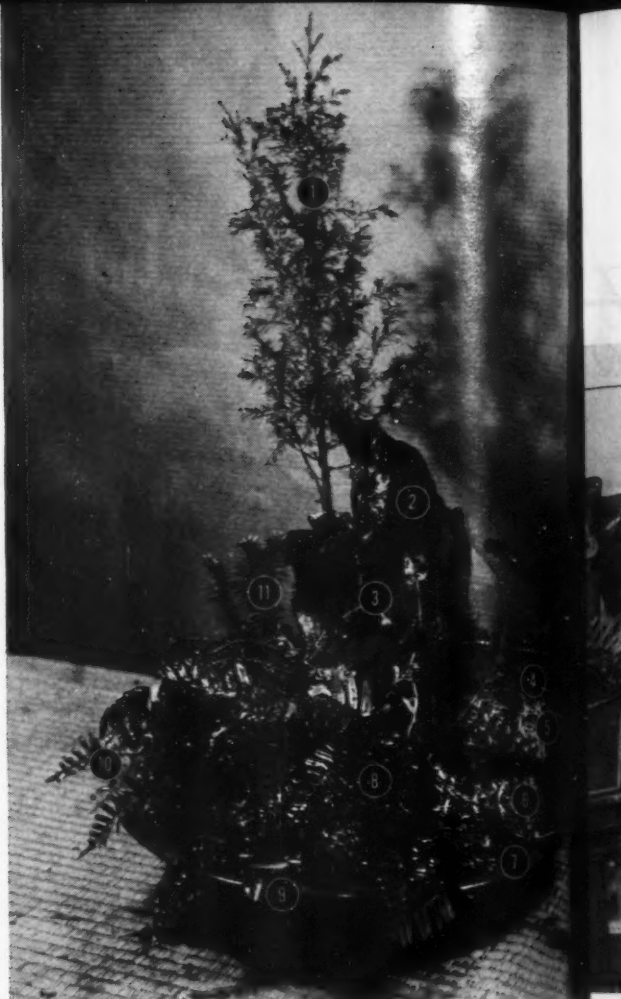
Especially intriguing is Desmond Muirhead's work entitled simply *Palms* (Dale Stuart King, Six Shooter Canyon, Globe, Arizona, 1961. 140 pp. \$1.95 in paper, \$3.20 in cloth). This distinguished landscape architect has worked with palms for years, learning their problems and limitations, and proving again and again their unsurpassed decorative potential. The book will not only assure an easy identification for the amateur, but introduce any gardener in the drier regions of the country to the limitless possibilities of the palms in his own landscaping. The text is lavishly illustrated with both photographs and pen-and-ink drawings, all good.

A revision of the popular field guide, *North American Trees*, by Richard J. Preston, Jr., offers one of
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1. Juniper seedling
2. Chestnut wood "Accent"
3. Partridge berries
4. Reindeer moss
5. Grey moss
6. Cladonias
7. Fairy cups and British soldiers
8. Pin cushion moss
9. Rattlesnake plantain
10. Polypody ferns
11. Lycopodium, shining club moss



Forest Gardens range from three to 15 inches in height, while the containers vary from five to 15 inches in diameter



MINIATURE F

ALICE in Wonderland, shrunk down to a size to walk comfortably under a toadstool, would find herself passing through an authentic forest right on your dinner table, if she were to step into one of Kay Martin's Miniature Forest Gardens. All of the tiny mosses, lichens, puff balls, ferns, mushrooms, evergreen seedlings, and vines she uses in her plantings were collected from the floor of the forest around her home in Weston, Connecticut, or were sent to her by a friend in Maine. They range in height from two to three inches to about 15 inches.

Kay Martin, who makes her For-

AMERICAN FORESTS



Mrs. Kay Martin, who creates her Forest Gardens at the Gazebo, a New York florist shop

FOREST GARDEN

By CREIGHTON PEET

est Gardens in a New York City florist shop called the Gazebo on East 62nd Street, got her idea for these creations from the "dish gardens" she helped her children make as a part of their nature study work in school many years ago.

Although the children's collections of wildflowers and grasses only lasted a short while, her gleanings from the forest floor are so planted in bowls and containers from about five to 15 inches in diameter that, with proper care, they will live for a couple of years. She sells them for \$7.50 to \$25.

The containers do not have drain-

age holes. A bottom layer of small gravel, topped with a layer of sand and chunks of charcoal, keep the loam and soil layer in which the tiny plants are rooted, sweet and well drained. She waters her plantings with a small bulb producing a fine spray, which keeps them bright and clean. In each bowl Mrs. Martin places a central "accent piece," a small twist of hemlock or chestnut root, often with moss, lichen or puff balls growing on it.

While most of her plantings are in small bowls and dishes suitable for dinner table centerpieces, last year she did two much larger arrange-

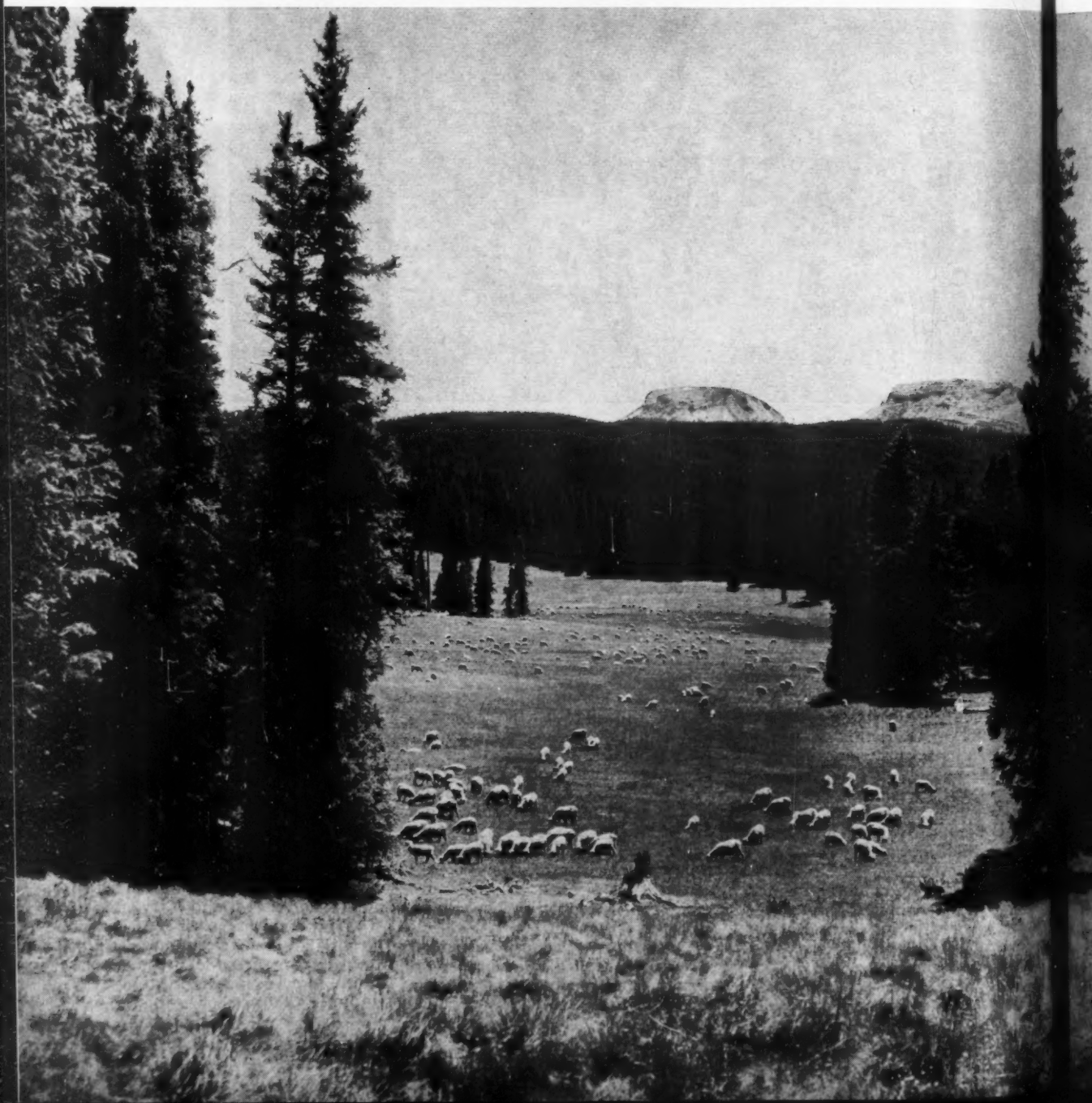
ments for a room divider in the lounge of the *SS United States*, and she has plans for larger plantings for office buildings, now very much interested in growing things for lobby decoration.

Mrs. Martin finds summer the best time to collect materials for her Miniature Forest Gardens, although quite a few items can be picked up, even in the dead of winter, when snow is on the ground. Very often in forests, there is a circle of clear ground around a tree somewhat protected from the wind, and here she can find moss, lichens, seedlings, etc.

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More than One Way to F

Ranchers have developed some intricate tree planting procedures that result in higher productivity from the soil and livestock



PLANT TREES

By DAN BROGAN

WHAT a long way ranchers have come in soil-water conservation and land management since cattle had free access to the unfenced ranges when there were no conservation practices.

"Why should the government pay farmers and ranchers to drain land in semi-arid regions where water is scarce, and then turn around and pay them to build ponds or to encourage the planting of trees and wind breaks," said Jim Strand at a recent Grange meeting.

That there are others who agree with Jim is verified by the intricate conservation projects many are carrying out today—soil-water-livestock-wildlife programs that not only increase productivity but also enrich ranch living.

Some experiment at length to solve certain problems that their particular soil, land contour, or climate may impose to hinder normal conservation practices.

For instance, there is lawyer-rancher George F. Johnson whose range is located in a semi-arid region, where the annual rainfall is only 13 to 14 inches, and on steep bluffs where an occasional rainfall will gush down the bluffs to scout out ridges, leaving more havoc than good from the moisture. With such handicaps Mr. Johnson had difficulty getting trees to grow despite conservation practices he had been carrying out, and trees to him are particularly pertinent in his operations, for they pin down the soil to keep it from eroding.

Thus, soon after buying the ranch he planted several hundred trees in the usual manner, but they soon withered and died. A resourceful man, he then experimented. Angling around the bluffs, he terraced small pockets where they would catch the greatest amount of drainage. On these terraces he then planted his trees. So successful were the results

that he has followed that pattern since with cottonwood, poplar, and willows. He now has 90 acres in two to seven-acre tracts scattered over his 2,000-acre ranch. With a small One-Way cultivator he is able to give the young trees good care.

But Mr. Johnson did other experimenting in tree planting. One spring he was unable to get shrubs for the outside row of a new shelterbelt he was setting out. He substituted cottonwood seedlings. With these shooting up more rapidly than most of the other trees, they could soon enclose that shelterbelt like a stockade around a fort, as they made excellent growth. However, the next spring he cut them back almost to ground level. That caused them to fan out like bushes. As such, they catch the winter snows and turn that additional moisture back into the soil. This rancher also used seed to develop thrifty patches of buffalo berries, carrangua, wild plum and sumac. Not only were they useful to pin down the soil, but were excellent winter protection for wild life.

Conifers presented still another problem. Try as he might, he was unable to get some dwarf cedars to take hold on those bluffs that had a 30-degree slope. Finally he bulldozed out small benches on the hillsides about 6 x 12-feet in size and in each he planted two cedars. The drainage into these provided the additional moisture needed to help them get rooted. So well pleased was he with this way of handling the cedars that this past spring he set out an additional 6,000 cedars and ponderosa pines. By the end of the season all were doing splendidly.

To drain a pothole just to get rid of the water was to him a sin against nature. Among the bluffs he had a large number of potholes. These overflowed as the snow melted in the spring or after a flash flood, with

(Turn to page 50)



An aerial, black-and-white photograph of a logging operation in a mountainous region. The terrain is heavily disturbed, with numerous large logs and piles of wood debris scattered across the slopes. A winding road or path is visible through the landscape. In the background, more forested mountains rise under a clear sky. A large, white, circular graphic element is positioned in the upper right corner, containing the word "LOGGING" in bold, black, sans-serif capital letters. The letters "TH" are visible to the right of the circle, suggesting the word "THERM" or "THAT".

LOGGING TH

Head
after
15 bi

Headwaters of the Kilchis River
after the loggers had hit the last
15 billion board feet of snags

By LYNN F. CRONEMILLER

THE TILLAMOOK BURN

TWELVE billion board feet of timber makes quite a bonfire. This was demonstrated in a spectacular manner in northwest Oregon in 1933 when the Tillamook fire broke out. It covered a quarter of a million acres of some of the finest old growth Douglasfir in the Northwest. More than 200,000 acres were burned in a matter of 20 hours. Two subsequent fires in 1939 and 1945 increased the acreage to 355,000 acres and added a billion board feet to the timber killed.

There was still sound timber in the burn. Little had been destroyed by the 1933 fire. But salvage was a battle against time. Experts said that insects and decay would take the timber within a period of seven years. It became the story of a conflict with time on one side and insects and decay on the other, of loggers and logging shows, of highlead operations and railroad transportation, of steam and diesel donkeys, of bulldozer equipped caterpillars and logging trucks. It started in 1933 and ended nearly 30 years later with more than half the timber salvaged.

The first fire hit during the depression years. Independent mills were taking no fire-killed timber. The future looked dark. Some of the owners of the larger tracts had faint hopes of future salvage but were unwilling to gamble to the extent of paying taxes currently. A deferred tax agreement was worked out with the Tillamook County Court wherein lieu tax payments of five cents per thousand board feet per year would be made if and when any of the timber was logged and sold. The land would go to the county. Something like 135,000 acres were signed up under the agreements. Another 125,000 acres were abandoned outright by the owners and eventually went to the county through tax foreclosure.

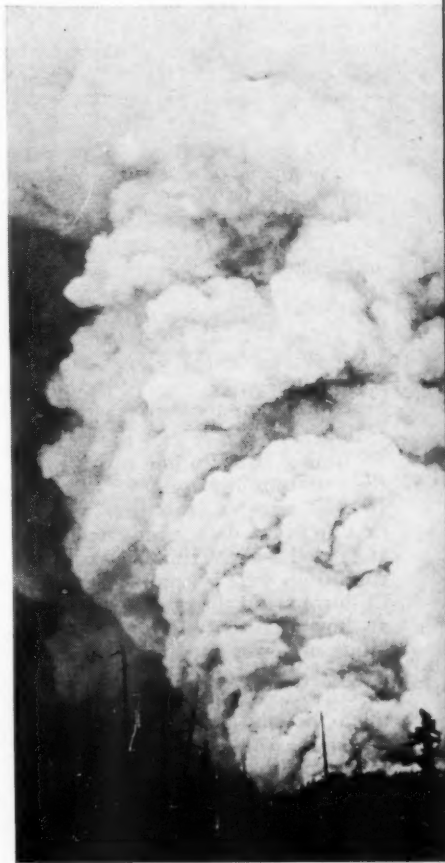
Legal processes delayed this for at least six years.

Through force of circumstances, three operators were logging the burn by the time the ashes of the 1933 fire had cooled. These included Joe Flora down on the southeast corner, the Simpson Lumber Company on the east side, and the A. F. Coats Lumber Company on the west side. Each owned a sawmill. Fire had run through their holdings and they had to log burned timber or close down. They chose to log.

In June of 1934 came the announcement of the organization of the Consolidated Logging Company. Owners included the Watzeks, the Blodgett interests, and Henry F. Chaney. The sole purpose was to log the burned timber. They pooled their holdings of about 45,000 acres. It carried 2.5 billion board feet of timber according to pre-burn figures. The sale of the logs was not a problem. The new company had milling interests.

The Great Northern Railway Company had built a 25-mile spur line out of Portland that ended on Gales Creek at the foot of the Coast Range. It was at the extreme northwest corner of the burn. The new company built its camp at the terminus of the road. It hooked its steel onto the Great Northern and headed for the summit of the Coast Range, seven miles away on a four per cent grade. From there it branched out in both directions.

The timber fallers hit the burn as the gandy dancers spiked the rails to the ties. They had their instructions from the bullbuck. This was a high grade show. Trees under 24 inches in diameter were to be left. The No. 2 mill log was frowned upon. About 80 feet of a tree was considered a fair maximum that could be taken out. These were



The 1933 Tillamook fire in Oregon covered 200,000 acres in just 20 hours.

largely highlead shows. The railroad was near the summit. Most of the timber was down in the canyons. The old steam donkeys were set up on the landings. The gas and diesel donkeys were still a few years in the future. Speed was emphasized. Gyppos or logging contractors were put to work.

Spar trees 100 feet and more in height, with their graceful web of steel cables, were silhouetted against the skyline for miles. Long strings of loaded flats headed for the foot of the hill where the logs were dumped and reloaded onto the Great Northern cars for shipment to the log dumps. The first year 24 million board feet of timber went down the hill. It jumped to 75 million within the next few years. Flora, Simpson, and Coats followed the highlead pattern. Their combined output ran about 100 million board feet.

Flora had trouble in 1939. On a hot summer day a Consolidated gyppo was careless. A fire got away and headed for Flora's operation 12 miles to the south. It burned 12 trestles and marooned his equipment in the burn. Most of it was either burned or badly damaged. He never recovered and the operation closed down. It was several years before the legal problems were solved and another company took over.

Logging activity and the demand for timber was building up. By 1940 the county found itself the owner of 100,000 acres of land that was not tied up in tax deferment agreements. It carried a lot of timber. Economic conditions were changing. The war in Europe and the preparedness idea at home created demands for all kinds of forest products. Operators from the state of Washington came down to look things over. Some of them bought timber, built mills, sawed the timber, and shipped the cants north.

This stirred the local operators into action. Some of them thought it might be well to take a look up the canyon. They pulled on their caulked boots and headed for the burn. They walked the length of good solid windfalls and slapped the side of their double bitted axes against the snags. There was good sound timber there.

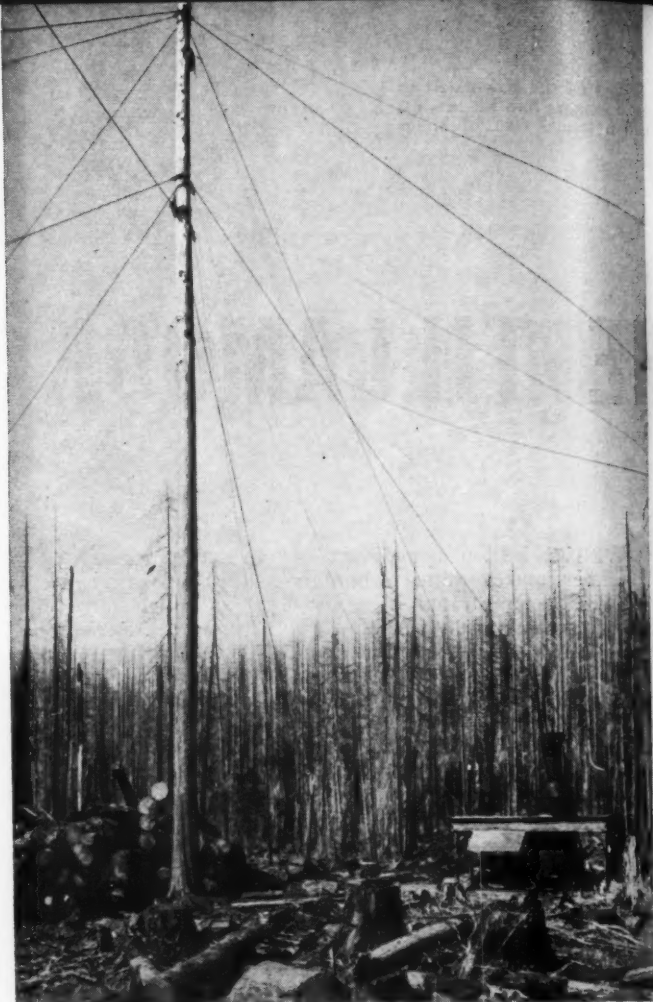
They headed for the Tillamook County courthouse. The officials were eager and willing to deal. Time was running out on the timber. The seven year limit set for the inroads of insects and decay had passed. The court set the price of Douglasfir at

\$1.00 per thousand board feet. Cedar and hemlock went for fifty cents. Contracts were strictly in the purchaser's favor. Payments were to be made when the logs were scaled and sold. They were either without time limitations or the renewal was at the option of the purchaser. It made little difference. Hadn't the experts said that defect would soon end the salvage?

The boost in economic conditions brought about by the war did not bring an increase in activities in the burn. In fact, production dropped during the period that the United States was in the conflict. There were a number of reasons for this. Heavy equipment of all kinds went to the armed forces. Selective Service was calling the loggers. Then the rumors hit the woods that there were rich pickings down in the shipyards on the Willamette and Columbia Rivers. It was time and a half for overtime and double time for

Sundays and holidays. They were running 24 hours a day, seven days a week. There were no closures due to the high fire hazard that frequently hit the woods during the summer. The logger tossed his axe and saw into the brush and headed for the city. As a climax, fire broke loose from a gyppo logger in 1945 and the third Tillamook blaze was on its way. Loggers who had stayed in the woods spent several weeks fighting fire instead of logging.

The war ended and the armed forces came home to a country lacking millions of homes. Wartime construction had been brought to an end. The shipyard crews went back to the woods and manufacturing plants. Logs and more logs was the cry coming from the sawmills and plywood plants. The rush of pre-war time logging was a mild afternoon siesta compared with what was about to occur. The Office of Price Administration lifted the ceiling



Highlead show with steam donkey salvaged logs on Tillamook burn



Majority of logs in mill pond, owned by Diamond Lumber Company, are peelers that will go to plywood plant down in valley

prices on stumpage. Rationing went out of the window. The bars were down. Prices of the unobligated stumpage in the burn went to \$5.00 per thousand and then headed for \$10.00. Some of the choice shows went for as much as \$20.00. The loggers holding the five-cent agreements and dollar contracts with the county had hit a gold mine.

Railroad logging had ended. The steel and ties were pulled and the roadbed turned over to the logging trucks. The old steam donkey was replaced with the gas and diesel powered machines. The bulldozer equipped caterpillar built the truck roads up the canyon and then headed for the ridges on grades up to 20 per cent. A winding web of roads was opening the burn. Much of the logging became a down hill show. The cat entered the logging picture. The highlead still brought the timber out of the spots that the cat could not reach. The trucks took

the loads and headed for the highway.

The lumber yards found a ready market for the No. 3 boards as peacetime construction got under way. Then the No. 4 board made its appearance. No such grade had ever appeared in the western Oregon retail yards. It had gone into the burn as a cull. Up in the burn the early days of logging as well as the wartime rush had left a tremendous amount of sound timber. High grading had continued. Small snags and defective timber had been bypassed. Low grade logs that might have been bucked out of the tops remained in the woods.

A new term was coined. It was "re-logging." Here was the opportunity for the small logger. He could go back and get some of that timber. The sawmills wanted it. No longer would powerful equipment be required to build roads and do the logging. The roads were already in.

A small caterpillar with a bulldozer attachment would do the logging and build the few temporary spurs that might be required. A short-bed truck would pass for transportation if nothing else was available. Lacking that or if long logs were produced, a contract trucker would do the job.

At times a donkey engine was needed. The logger with the short purse was quite original. He mounted an old automobile engine on a sled and added a couple of second hand donkey drums for the mainline and haulback. The outfit was ready to go to work. They cut financial corners by forming partnerships. The pair would fall and buck the timber and then do the logging. The truck would pick them up and head for the mill. When the check came there was money to meet the bills and perhaps a fair wage for the partners. Often the profits were
(Turn to page 51)



Here's the 71-hp TD-9 Skid-Grapple showing the ease of spot-placing logs on truck, pile or freight car. Skid-Grapples are available in 5 logger-proved sizes—and in types to meet every conceivable wood-handling condition. Many small and medium-sized users skid logs from the woods and "load-out" with a Skid-Grapple.

How a Skid-Grapple can streamline your log, pulpwood, and lumber handling!

One investment made in an International Drott Skid-Grapple can give you "production line" forest products handling efficiency.

With the logger-developed Skid-Grapple, you can mechanize many woods and mill operations to practically eliminate any need of hand work. You can pick up, skid, or carry, pile or load saw-logs, pulpwood, lumber, mill-waste, ties, utility line poles, stumps and brush.

This rig has mountain-climbing, mud, swamp, and sand-beating crawler power and traction. It's already "set up" for big-capacity production—the instant it gets on the job! No site to level—no poles to set—no helpers to hire!

One man is the "crew." Your Skid-Grapple operator is the "crew." All he does is push the lower arms of the grapple under the wood (or lumber or brush). Then he clamps the load securely with top grab-arm—rolls back the full grapple—and he's ready to skid, or carry the materials to the loading point. Your

operator can grip firmly, and release gently, one big stick or several small ones, with Drott-developed top grab-arm control.

And to break loose frozen down or mudded in logs, he has the tremendous force of pry-over-shoe break-out power.

Prove on your own job that the International Drott Skid-Grapple can streamline your log, pulpwood, lumber, and brush-handling operations. See what it means in operating ease, capacity, and long-time dependability to get a rig with logger-developed strength and stamina. See your International Drott Distributor for a Skid-Grapple demonstration!

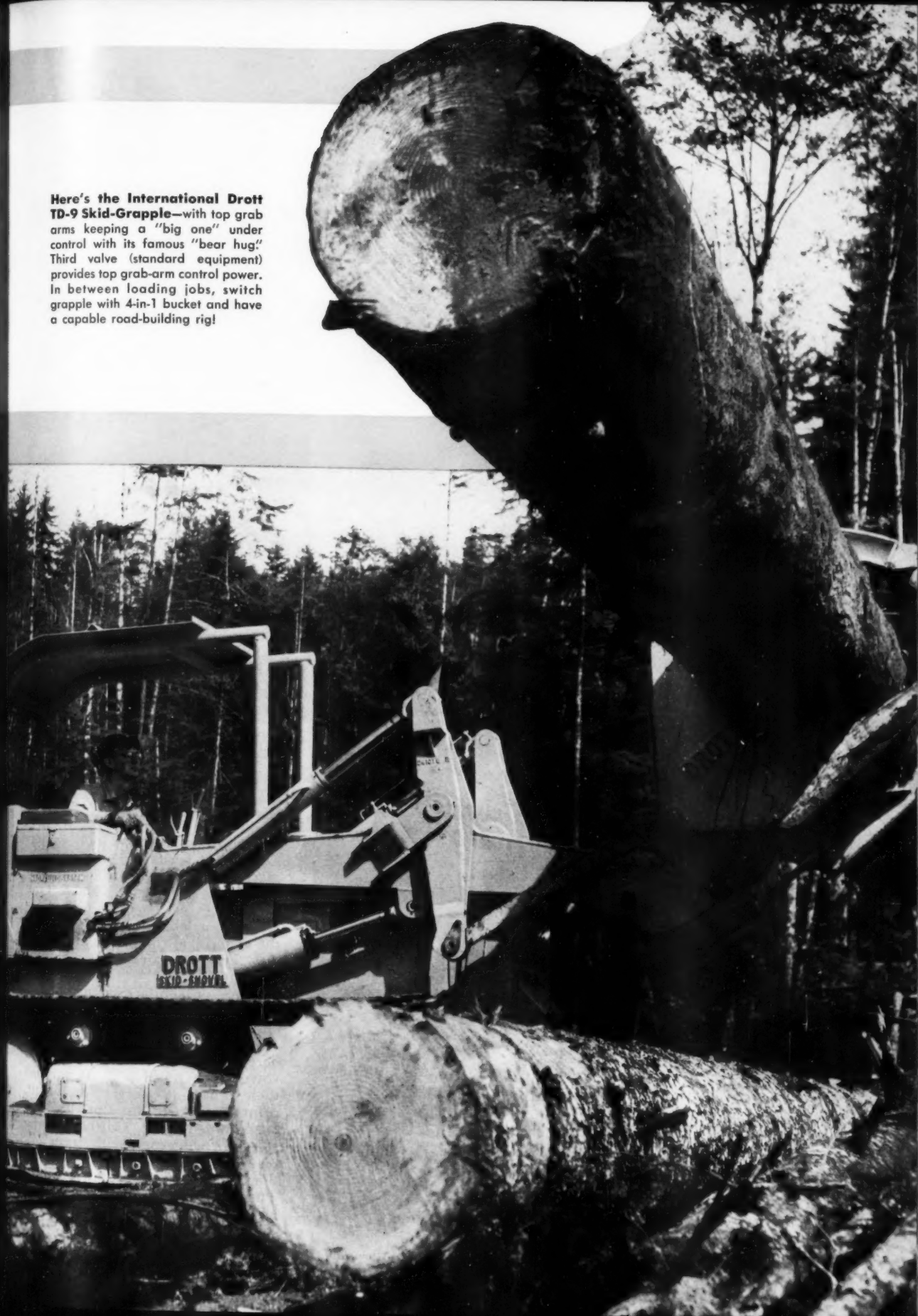


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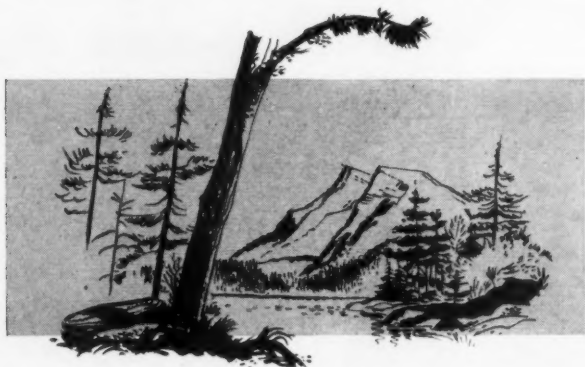
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Drott Manufacturing Corp.
Milwaukee 15, Wisconsin

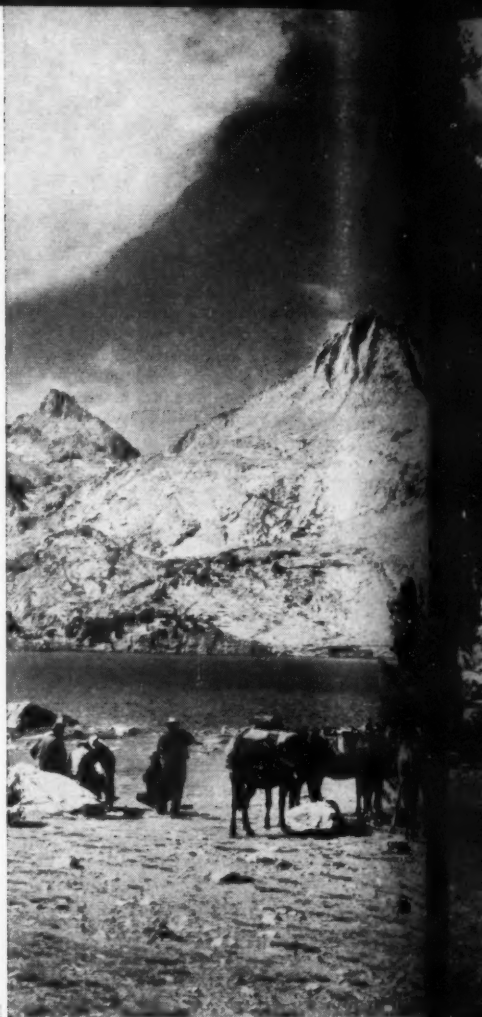
Here's the International Drott TD-9 Skid-Grapple—with top grab arms keeping a "big one" under control with its famous "bear hug." Third valve (standard equipment) provides top grab-arm control power. In between loading jobs, switch grapple with 4-in-1 bucket and have a capable road-building rig!



HOW WILD THE WILDERNESS



High Sierra trails, often following old Indian or stockman routes cross many areas which cannot withstand present recreation traffic



Famous Rose Lake is a mile off Muir trail and 14 miles from nearest road

WE must preserve our wilderness heritage untouched—a place must be kept for our children to view the surroundings and feel the experiences of the early pioneers—an outdoor laboratory is needed for the scientist to compare man's artificial effects against the natural state."

These or similar statements frequently introduce the subject of wilderness area establishment and maintenance. But have you ever wondered just what such statements involve? Is it possible to accomplish these aims in reserving beautiful, primitive places in this modern, overcrowded, and swiftly moving age? Are wilderness enthusiasts unrealistic in interests and desires? Are they closing their eyes to reality? These and many other questions are involved in current wilderness dis-



Only a few of the tents set up by an organized group of over 100 people. Author suggests that such large groups are not consistent with the purposes behind the preservation of our wilderness regions

By **ARNOLD P. SNYDER**

District Ranger, High Sierra Ranger District, Sierra National Forest

cussions and issues. This article elaborates on some of these related matters and emphasizes some conditions we must face if we expect to preserve our wilderness areas.

As a background for this article I should inform you at the outset that I am a wilderness area ranger. Since 1947, my employment with the U. S. Forest Service has been on so-called "horseback" districts, i. e., ranger districts with a great deal of back country. In 1952, I transferred to the High Sierra Ranger District, Sierra National Forest, where I am involved in the day to day task of administering one of the finest and most popular wilderness areas in America.

A few of my back country impressions may help you gain an insight into my feelings in regard to wilderness conditions. I travel through

the beautiful virgin forested area on my district with a certain amount of awe and reverence, and a great deal of enjoyment; but I also am aware of the tremendous waste of diseased, deformed, and mature and dying trees. To me, a rainbow trout puts up the same stiff fight and tastes the same, whether it comes from a high country power reservoir or a wilderness lake. A herd of whiteface cattle in a mountain meadow is a colorful and pleasing sight, but I deplore the cow habits of over-using these choice grasslands and loafing under the same trees I choose for a campsite.

The High Sierra Wilderness Area is a 394,000-acre area classified as "primitive" along the Sierra Crest in central California. (It is now in the process of being studied for classifica-

(Turn to page 62)

Irresponsible fishing parties at Rose Lake left ugly piles of debris in area





Once submerged by an inland sea, Tulare Lake region is today one of the richest farming areas in the world

BIG LAND

FROM OUT OF THE SEA

By DON CARLOS MILLER

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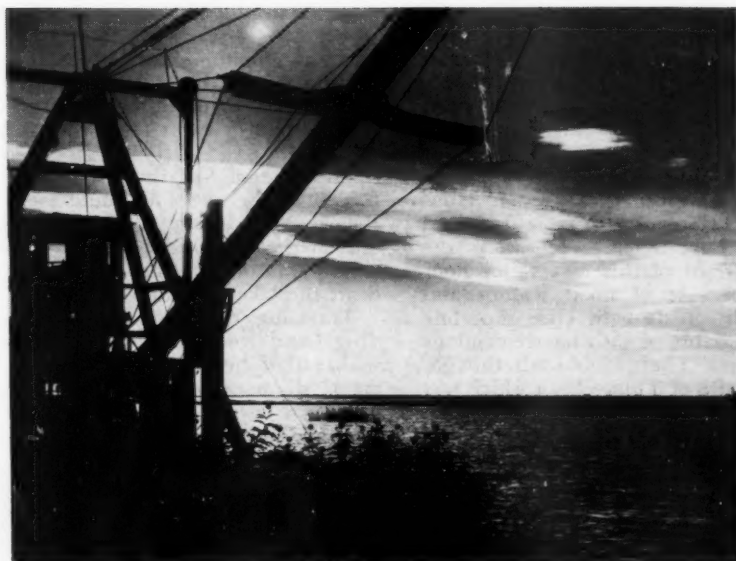
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THERE are 162 dams in the United States over 200 feet high. Behind 78 of these, 94 trillion 975 billion gallons of water can be impounded at one time; this water covers nearly 9,000 square miles of land—land that once was forest or farm. Each year more dams are built, more land covered.

These projects are so numerous we see no strangeness in them. But, when land is recovered from the sea, that is strange, indeed, because of its very unusualness. And when that sea has completely disappeared so that its total acreage is under intensive cultivation and is one of the richest farming areas upon the earth, there certainly is an element of strangeness about it. This element is intensified immeasurably when we come to the fact that none of the great modern dams anywhere near approaches backing a watery cover over as many acres as this great inland sea once covered. In fact, it submerged at least 25,000 more acres than the largest of our man-made lakes.

This gigantic body of water once spread across a large portion of the southern half of the great San Joaquin Valley so that, old-timers claim, a man could travel all the way from a point near Hanford to Bakersfield without touching land. On the face of it, this seems a rash statement, but for the past hundred years ranchers of the valley have been using of the water that once flowed into Tulare Lake, Summit Lake, Goose Lake and Buena Vista Lake. There is considerable evidence to prove that originally all these lakes were one sprawling body of water known by the Spanish meant, roughly, "where the tules Californians as "Los Tulares" which



As the irrigation districts along the river took more and more water the lake receded. Here, a dredge clears channel near shore

Flocks of pelicans flying over lake after it refilled in 1938. Once the region was wintering ground for thousands of waterfowl.



Sudden floods frequently washed out the recovered land so that higher and wider levees were necessary



grow." Later, the Americans changed it to "Tulare" which became not only the name of the great lake that is now gone but also that of a city and a county.

Actually, no one knows the exact size of this inland sea which once was billed as the largest fresh-water lake west of the Mississippi. (Some may object to it being called a "sea" because there is the general impression a sea must be salt water. However, the Sea of Galilee is fresh and Mono Lake is salt.) Because of the flat terrain of this vast valley floor and because of flood seasons and periods of drought, the shoreline had a habit of moving tremendous distances. There was a limit, though, to the size of Tulare Lake which was determined more by a set of circumstances than the elevation of the lands surrounding it.

The two major rivers of the San Joaquin Valley, the Kings and the San Joaquin, had an annual habit of rushing out of the mountains, wild and untamed, as soon as warm days came to the great snow-fields of the Sierra Nevada; both streams cut almost directly across the valley, washing tons of earth into the flat lands, raising twin barriers all the way to the Coast Range Mountains. Sometimes when the water of the San Joaquin River came down too rapidly, its channel running northward to its juncture with the Sacramento could not carry all its water and it would back up into Tulare Lake. At the same time, the Kings would be building its barrier of silt that would eventually retain most of

the flow of the Kings, the Kaweah, the White, the Kern, and many lesser streams. If the pressure from the San Joaquin subsided before the flooding of the other streams ceased, the barrier was sometimes partially broken so that water from the lake flowed into the San Joaquin, thereby lowering it a foot or two. Thus, the land covered by Tulare Lake depended upon the result of these struggling forces. A rise of a foot could mean the covering of thousands of acres and in the end this rising and subsiding was one of the factors that dealt the lake its death blow.

Traveling through much of this "Big Land" today, one can scarcely realize that here there was once a great shimmering body of water filled with fish and terrapin that fed thousands of Indians with ease and later provided delicacies for the tables of San Franciscans. It looks like many another California landscape with vineyards and orchards, hayfields and cotton. But in the deepest portion of the lake there is a strangeness, even today, and it is a strangeness that goes back to the beginning of the great struggle to take the land from the sea.

Here there are no orchards but great fields of barley, sugar beets, cotton, safflower, and alfalfa. The roads are on levees high above the fields and the fields stretch endlessly to the horizon. Houses? Even in the vast ranges of Montana or Texas houses are more frequent. One can travel for miles without seeing a habitation. Then there is likely to be a whole cluster of them, usually

surrounding a cotton gin, grain elevators, huge tool sheds and repair shops that would dwarf most large city garages, and fields of machinery awaiting the day of need.

In many respects these ranch headquarters resemble European castles; at least from a distance they do. And no baronial estate could be more self-sufficient from the standpoint of maintaining its operations. Here is the blacksmith, the machinist, the skilled technician; their business is to keep the wheels of production rolling and they do it in the most modern way. Here are the ranch supervisors, their pickups and cars and airplanes with radio-telephones hooking them up into a vast central unit with one single goal: PRODUCTION.

It is a land of irrigation, of great pumps and deep wells, of water running down meticulously spaced rows that are a mile long; it is a land of machines—of cultivators and harvesters, mowers and cotton pickers. At harvest time there may be a dozen harvesters in one field with trucks shuttling back and forth with their loads of grain. Sometimes the man with the hoe—a great crew of men—has his inning at knocking out the weeds in the long rows. But, for the most part, the machine is the predominate feature here, along with the bigness; the land was born that way and so it remains.

Till the 1880's the lake was continuously full but even then the level raised and lowered in relation to the flow of water and the strength of the

(Turn to page 56)

The town of Corcoran was submerged in 1938, when the Kings went wild and spilled onto 143,140 acres. It took eight years to win back this land with the use of men, machines, fortunes, and determination.



★ ★ ★ ★

The American Forestry Association

Articles of Incorporation and By-Laws

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The American Forestry Association is a citizens' organization for the advancement of intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation.

Its educational activities, of which publication of AMERICAN FORESTS is one, seek to bring about a better appreciation and handling of these resources, whether publicly or privately owned, in order that they may contribute permanently and in the highest degree to the welfare of the nation and its people.

In addition to publication of AMERICAN FORESTS, which is designed to keep before the people of the country important conservation needs and progress, the Association carries on educational projects in various fields. These include forest fire prevention, reforestation, protection and propagation of fish and wildlife, upstream flood control, prevention of soil erosion, preservation of wilderness areas, establishment of community and state forests, development of forestry by private endeavor, protection of national forests and parks and the dissemination of conservation information among the schools and people of the country.

The Association is independent. It has no connection with any federal or state governments. It is non-political and non-commercial. All its resources and income are devoted to the advancement of conservation. It has been so operated since its founding in 1875. Anyone interested in conservation is eligible for membership.

ARTICLES OF INCORPORATION

WHEREAS, THE AMERICAN FORESTRY ASSOCIATION was incorporated under the laws of the District of Columbia for a term of twenty years, which term has expired, so that its corporate existence has ceased and determined by the limitation of its charter; and

WHEREAS, it is desired to incorporate under said laws, a new corporation under the same name and title so that by proper proceedings the existing rights of property and contract of said former corporation may be transferred to and vested in the new corporation.

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, each of whom is over twenty-one years of age, and a citizen of the United States, and a majority of whom are citizens of the District of Columbia, being desirous of associating ourselves and those associated with us as aforesaid, for the purpose of



Karl T. Frederick, Senior AFA Board Member, was chairman of the committee which revised By-Laws of the association

converting The American Forestry Association into a body corporate in accordance with the Acts of Congress, relating to the District of Columbia, in such cases made and provided, do hereby certify as follows:

FIRST. The name and title by which this corporation shall be known in law shall be "THE AMERICAN FORESTRY ASSOCIATION."

SECOND. That the term for which it is organized is perpetual.

THIRD. That the objects of the organization are the discussion of subjects relative to tree planting, the conservation, management and renewal of forests, and the climatic and other influences that affect their welfare; the collection of forest statistics, and the advancement of educational, or other measures tending to the promotion of these objects. It shall especially endeavor to centralize the work done and diffuse the knowledge gained.

FOURTH. That the number of directors of this organization for the first year shall be fifteen (15).

IN TESTIMONY WHEREOF, we have severally set our hands and seals this 27th day of January, 1920.

P. S. RIDSDALE,
L. M. CROMELIN,
WILLARD FRACKER.

District of Columbia, ss.:

I, George G. Brown, a Notary Public in and for the District of Columbia, do hereby certify

that on this 27th day of January, A.D. 1920, before me personally appeared P. S. Ridsdale, L. M. Cromelin and Willard Fracker, to me personally well known and known to me to be the persons whose names are signed to the foregoing and annexed certificate of incorporation, and did severally acknowledge the same to be their act and deed, and that they and each of them executed the same for the purposes therein set forth.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal this 27th day of January, A.D. 1920.

GEORGE G. BROWN,
Notary Public, D. C.

BY-LAWS

ARTICLE I—Name

The name of this Association shall be "THE AMERICAN FORESTRY ASSOCIATION."

ARTICLE II—Objects

The object of the Association is to bring about a better handling of the forests and related resources of the country in order that these may render their highest service in the economic, industrial and social development of the nation. The Association aims to foster and conduct investigation, research, and experimentation in the science of forest production, management and utilization; to assemble information regarding the economic, industrial and social aspects of forests and regarding the service of the forest in protecting soils and waters; to secure from the forest a larger service in outdoor recreation, in perpetuating wildlife, and in other general public benefits; to encourage and further the practice of forestry by individuals, industries, municipalities, states and the federal government; to promote educational, and other measures tending to the accomplishment of these objects; to carry on educational projects, including the publication of a magazine and other literature for the education of the public as to the meaning and importance of forestry and for the dissemination of a knowledge of forestry in its various branches; to place before the people of the country various problems and issues in forestry and to forward, in the interests of the public, specific policies of forestry; to aid in the co-

ordination of the efforts of state forestry associations and other organizations interested in problems relating to forests; to establish and maintain a library; to acquire by purchase, gift, devise or bequest, and to sell, maintain and operate forests and forest lands for the furtherance of the educational purposes of the Association; to acquire by purchase, gift, devise or bequest such property, real or personal, and to erect and maintain thereon such building or buildings as may be necessary or advisable in the promotion of these objects; and in general to do and perform all things necessary to further the foregoing objects.

ARTICLE III—Members and Dues

Sec. 1. Any person, organization, or company may become a member of the Association upon his or its application for membership being approved by the Secretary.

Sec. 2. There shall be six classes of membership, none of which shall be transferable.

(1) Honorary Members, who shall be such individuals as may be elected by the Board of Directors in recognition of outstanding service in the development of forestry or other related branches of conservation;

(2) Patron Members, who shall be individuals who shall contribute One Thousand Dollars or more at one time to the permanent fund of the Association;

(3) Life Members, who shall be individuals who shall contribute to the funds of the Association at least One Hundred Fifty Dollars at one time or in such installments as the Directors may approve;

(4) Sustaining Members, who shall be individuals, organizations, or companies who shall pay annual dues of Twenty-five Dollars or multiples thereof;

(5) Contributing Members, who shall be individuals, organizations or companies who shall pay annual dues of Ten Dollars;

(6) Subscribing Members, who shall be individuals, organizations or companies who shall pay annual dues of Six Dollars.

Sec. 3. Honorary, Patron and Life Members shall be exempt from the payment of annual dues but shall receive the Association's magazine for life.

Sec. 4. Dues for the ensuing twelve months shall be payable when an application for any class of annual membership is approved and annually thereafter. The membership of all those in arrears for three months shall automatically cease. The Secretary, may, in his discretion, remit or defer the dues of any annual member. He may, subject to the prior approval of the Board of Directors, establish term rates for members who desire to pay dues two, three or five years in advance.

Sec. 5. All members shall be entitled to one vote each at the meetings of the Association, or by mail if so provided. Individual members shall be eligible to hold office in the Association. An organization or company may designate a representative who shall have the same voting powers on its behalf as an individual member.

Sec. 6. The periodical magazine published by the Association shall be sent regularly to all members, its price being included in the dues. The price of the magazine to non-members and to members of organizations affiliated with the Association shall be fixed from time to time by the Board of Directors.

ARTICLE IV—Board of Directors

Sec. 1. The Board of Directors shall con-

sist of twenty-one individual members elected by the members of the Association together with the President, Vice-President, and Treasurer as ex-officio members. The Board of Directors shall have the direction and management of the affairs of the Association, the determination of its policies and the control over and disposition of its funds and property. The Board of Directors shall cause an independent audit of the Association's accounts to be made at least once in each year.

Sec. 2. Members of the Board of Directors shall be elected as follows: at each annual election seven directors each for terms of three years. And in addition directors shall be elected to fill any vacancies which may exist, in each case for the unexpired term of the director whose position has become vacant or is to be filled. At the first annual election following the adoption of this section (as now amended), there shall be deemed to be two vacancies, each for an unexpired term of one year and two vacancies, each for an unexpired term of two years in addition to such vacancies as may exist by death, resignation or other cause.

Sec. 3. Ten members of the Board of Directors shall constitute a quorum for the transaction of business.

Sec. 4. Meetings of the Board of Directors may be held either at the office of the Association in Washington, D. C., or at such other place in the United States as the President may determine. Meetings of the Board shall be held upon fourteen days' notice, whenever called by the President or by seven members of the Board, and a meeting of the Board shall be held at least twice in each fiscal year.

ARTICLE V—Committees

Sec. 1. **Executive Committee.** The Board of Directors may appoint four members of the Board to act together with the President as an Executive Committee which shall have and may exercise the powers of the Board except the powers of amendment of By-Laws or of filling a vacancy in any office, during the intervals between meetings of its Board. Three members of the committee shall constitute a quorum for the transaction of business.

Sec. 2. **Finance Committee.** The President may appoint three members of the Board of Directors to act as a Finance Committee in advising with the Executive Vice-President and Treasurer with reference to financial matters, and to exercise whatever powers are conferred upon it by the Board of Directors.

Sec. 3. **Elections Committee.** The Board of Directors shall appoint each year a Committee on Elections, whose names and addresses shall be published in an issue of the magazine not later than during the month of July. The Committee on Elections shall consist of three members of the Association in good standing for at least three years. Not more than one member of the Committee on Elections shall be, at the time of selection, an officer or director of the Association. Suggestions for nominations for directors of the Association to be elected by the membership may be submitted to the Committee on Elections by any member of the Association; nominations for directors may be made by not less than fifty members of the Association, in good standing, signed by the members submitting them. All suggestions and nominations should be addressed to the Committee on Elections at the main office of the Association and must be received by the Committee on or before September 1. The Committee on Elections shall nominate one candidate for each director to be elected at the next annual election of directors of the Association. The candidates

nominated by the Committee on Elections, together with any other nominations which have been made by not less than fifty members of the Association in good standing and which have reached the Committee on Elections prior to September 1, shall be published in the October issue of the magazine, with the names of members of the Association making the nomination appended to the nomination of any such candidates. The Secretary of the Association shall cause a ballot to be printed containing the names of all candidates and shall distribute such ballots to all members of the Association having the right to vote on or before November 1. The members of the Association shall elect the directors by mailing their ballots to the Secretary in sufficient time to be received on or before November 30. Ballots shall be so prepared and submitted as to retain the anonymity of the voter. The ballots shall be counted by three tellers appointed by the President. The tellers shall decide any questions as to the ballots submitted and they shall officially certify the total vote cast. The candidates, to the number required to be elected, receiving the greatest number of votes, shall be declared elected and shall take office on the next succeeding January first.

Sec. 4. The President shall appoint such other committees from time to time as he may deem necessary to facilitate the handling of Association affairs, or as may be authorized by the Board.

ARTICLE VI—Officers

Sec. 1. The officers of the Association shall be a President, a Vice-President, an Executive Vice-President, not more than twenty-one Honorary Vice-Presidents, a Treasurer, a Secretary and such other officers as the Board shall from time to time determine. The President, the Vice-President, the Treasurer, and the Honorary Vice-Presidents shall be elected annually by the Board of Directors. The Executive Vice-President and the Secretary shall be elected by the Board of Directors to serve whatever term it may designate. All officers shall serve until their successors are elected.

Sec. 2. Any vacancy among the officers or directors, whether occasioned by death, resignation, or otherwise, shall be filled for the remainder of the year by the Board of Directors.

ARTICLE VII—Duties of Officers

Sec. 1. **The President.**—The President shall be the chairman of the Board of Directors and shall preside at all meetings of the Association and of the Board of Directors. In his absence, the Vice-President shall preside; and in the absence of both the President and the Vice-President, the members present at any meeting of the Association or of the Board of Directors, as the case may be, shall appoint one of their number to act as chairman of the meeting. The President shall be ex-officio a member of all committees.

Sec. 2. **The Vice-President.**—The Vice-President shall perform such duties as are assigned to him by the President or the Board of Directors. In case of a vacancy in the office of President the functions of that office shall be exercised by the Vice-President until the election of a President.

Sec. 3. **The Executive Vice-President.**—The Executive Vice-President shall be the managing and executive officer of the Association. He shall have general custody of the records and archives of the Association and, in the absence of the President, shall conduct the business of the Association, subject always to the Board of Directors.

Sec. 4. The Treasurer — The Treasurer shall have the custody of the funds of the Association, shall perform such other duties in connection with the finances of the Association as the Board of Directors may require, and shall present to the Board of Directors, at their first meeting each fiscal year a statement showing the receipts and disbursements of the Association for the preceding fiscal year and its assets and liabilities. The annual financial report for any fiscal year shall be presented to the members at such time within the following year and in such manner as shall be determined by the Board of Directors.

Checks shall require the signature of two officers or agents of the Association. All officers and agents having such power to sign shall be designated from time to time by the Board of Directors and shall be bonded.

Sec. 5. The Secretary — The Secretary shall keep the minutes of all meetings of the Association and of the Board of Directors, shall have the custody of the seal of the Association, shall keep a list of the members with their addresses, shall notify members of the Association and of the Board of Directors of the time and place of all meetings, and shall perform such other duties the Executive Vice-President may require.

ARTICLE VIII—The Chief Forester

The Board of Directors may appoint a Chief Forester who shall be a man of recognized attainments and high standing in forestry matters and shall perform such duties as shall from time to time be assigned to him by the Executive Vice-President.

ARTICLE IX—Official Publication

The official publication of the Association shall be its magazine *AMERICAN FORESTS*. The magazine shall serve as one of the media of the Association for the dissemination of information regarding forestry and related fields of conservation, and shall provide a forum for

the discussion of subjects pertinent to these fields. The directors may change the name of the magazine if in their judgment such action will serve better to carry out the objects of the Association.

ARTICLE X—Meetings

Sec. 1. The annual meeting of the members of the Association for the consideration of such matters as may be considered by the entire Association shall be held in Washington, D. C., or at any other place, on such day and hour as the Board of Directors shall determine.

Sec. 2. Special meetings of the members of the Association may be called at any time by the Board of Directors.

Sec. 3. Notice of the annual meeting, and of any special meeting, shall be published in the magazine of the Association at least three weeks before the date fixed for the meeting.

Sec. 4. The presence of fifty members of the Association shall constitute a quorum.

ARTICLE XI—Local Representatives and Affiliated Organizations

Sec. 1. The Board of Directors may designate such representatives of the Association in various regions of the United States and under such conditions as to compensation or payment of traveling expense as it shall deem wise and desirable in furtherance of the objects of the Association. The local representatives so designated shall perform their duties under the direction of the Executive Vice-President of the Association as the Board of Directors may determine.

Sec. 2. The Board of Directors may, when in their judgment the objects of the Association can more effectively be carried out, approve under conditions to be prescribed by them, the organization of state or regional chapters of the Association; and they may by resolution recognize and designate as organizations affiliated with The American Forestry Association such state forestry associations

or other organizations active in or desirous of promoting the conservation of forests and other natural resources, which, in the judgment of the Board, in view of their character, membership, and purposes, make affiliations desirable in furtherance of the common objects of the Association and of the organizations desirous of affiliation. In carrying out the objects of this section, the Board of Directors may prescribe the conditions of affiliation[s] and may fix the price at which the Association's magazine will be furnished to affiliated members.

ARTICLE XII—Amendments

These By-Laws may be amended by the Board of Directors at any regular or special meeting provided notice of the proposed amendments shall be given to all directors in writing at least thirty days before the date of such meeting. These By-Laws may also be amended by the members in the following manner: Any amendment proposed in writing over the signatures of fifty or more members, shall be submitted to the members with the next succeeding election ballot and shall be adopted if it receives the affirmative vote by mail of a majority of the members voting thereon. All amendments shall be published in the magazine within ninety days after adoption.



The members of The American Forestry Association have adopted a *Program for American Forestry* which recognizes three immediate goals for a national policy in forestry:

1. To meet the essentials of forest protection.
2. To improve the national timber crop in volume and quality to meet all needs.
3. To obtain the maximum of economic and social services from our forests.



Hough—Man of Approved Attainments

(From page 11)

tive, and judicial expenses of the government for the fiscal year 1877.

Mr. Dunnell's original bill had called for appointment by the President of a Commissioner of Forestry, similar to the Commissioner of Fisheries, as Dr. Hough and his memorial committee had recommended. But the amendment attached to the appropriation bill merely made available \$2,000 for a study of the forest situation in the United States by an agent appointed by the Commissioner of Agriculture. In the act approved August 15, 1876, the forestry amendment was tagged onto a section appropriating funds for the purchase and distribution of seeds.

This action by Congress, though inconspicuously buried in a lengthy appropriation bill, was a major event in the forest history of the United States. It was the first step toward the formation of a forest policy by the federal government. It paved the way for later legislative milestones in the development of a fed-

eral forestry program. By its authority a forestry agency came into being that would eventually grow into a great organization with far-flung activities.

Dr. Hough received his appointment from Frederick Watts, then Commissioner of Agriculture, on August 30, 1876. The federal government's first work in forestry was under way.

Franklin Benjamin Hough (the family pronounced it "Huff") was christened Benjamin Franklin, but during his boyhood the two given names were reversed. He was born on July 22, 1822, in Martinsburg, Lewis County, New York. His father, Dr. Horatio G. Hough, was the first physician to settle in the county.

Young Franklin, a studious lad, attended Lowville Academy, and later the Black River Institute at Watertown, N.Y. When he entered Union College in 1840, he was given advanced standing. He was graduated

in 1843. Then he taught for a year in the academy at Champion, N.Y. The next year he was hired as principal of Gustavus Academy in Ohio. In 1846, he decided on a medical career, and entered Western Reserve Medical College. Two years later he received his M.D.

Returning to New York State, Dr. Hough began the practice of medicine in Somerville. But his interests and activities ranged far beyond administering pills to patients. In the same year that he settled in Somerville, he published "A Catalogue of Indigenous, Naturalized, and Filicoid Plants of Lewis County." From boyhood up, he had been eagerly interested in science, especially in botany and geology. Now, probably to the detriment of his medical practice, he took time to make frequent journeys afield to study rocks and plants and to collect specimens. His outdoor journeys, often covering twenty miles or more in a day, helped him to develop a robust

physique. Over the years, he amassed large botanical and geological collections. He is credited with discovering a mineral known as houghite. The numerous articles he wrote on his observations eventually led to strong personal friendships with Spencer F. Baird of the Smithsonian Institution, Louis Agassiz of Harvard, John S. Newberry of Columbia, and other leading scientists of the day.

Dr. Hough also developed a strong interest in historical research. He collected local historical data ("History of St. Lawrence and Franklin Counties, New York" 1853); he edited numerous documents of the Revolution and the French and Indian Wars, and published several works on historical subjects, including "Washingtoniana, or Memorials of the Death of George Washington" (1865), and "American Biographical Notes" (1875). Altogether, Dr. Hough's publications during his lifetime numbered more than eighty. They included books, articles, and bulletins not only on history, geology, botany, and forestry, but also on meteorology, climatology, education, law, and civil records.

The year before he entered medical college, Hough married Maria S. Eggleston of Champion, N.Y. She died in 1848, leaving an infant daughter. The next year he married another New York girl, Mariah E. Kilham of Turin, N.Y. They lived long and happily together, and had eight children.

In 1854, Dr. Hough was chosen to direct the New York state census. He carried on this work in Albany while continuing as a practicing physician. When the Civil War began, Dr. Hough became an inspector with the U.S. Sanitary Commission. In 1862, he enlisted as regimental surgeon with the 97th New York Volunteers, and served with his regiment in the Maryland and Virginia campaigns. During the war period he translated a French work, Lucien Bauden's "Guerre de Crimée," which was published as "On Military and Camp Hospitals" (1862). He also wrote a "History of Duryee's Brigade" (1864).

After the war Dr. Hough settled in Lowville, N. Y. and continued his writing on scientific and historical subjects. He was again appointed superintendent of the census in New York in 1865; and he was called to supervise the District of Columbia census in 1867. Then, when work on the United States Census of 1876 began, Dr. Hough

was selected as its superintendent.

It was these studies that brought the depletion of forest resources to Dr. Hough's attention. He noted that big drops in timber production had occurred in certain localities in a single ten-year period. In his own state of New York, the value of lumber produced had declined from better than \$13,000,000 in 1849 to less than \$10,000,000 in 1859, even while the total national production was climbing rapidly. Local exhaustion of timber and continuing migration of the lumber industry to new territory was apparent in the shifting figures.

Now, in the nation's capital, Dr. Hough was ready to go after the whole picture, to assemble facts and figures that would move the national Congress and the states to do something for the "cultivation, regulation, and encouragement" of the forests. Following his appointment by the Commissioner of Agriculture, he took up his duties immediately. He already had his plan of work, calling for the following research:

"(1) An inquiry as to the rate of consumption of timber in the United States, expressed in quantities, values, and area of land required for this supply, and the probable duration of our resources at the present rate of use and waste.

"(2) As to the conservative measures that should be adopted to provide against future wants, including forest culture in all its scientific and practical relations.

"(3) As to the making of systematic observations to determine with scientific precision the influence of forests upon climate, etc., and especially upon temperature, evaporation, rainfall, electrical conditions, surface drainage, etc.

"(4) As to methods practiced in Europe, in relation to the planting and management of forests, including their special schools of forestry, etc., with statistical details and results."

Similar studies in more recent times have required the efforts of large staffs of workers over periods of several years. Yet Dr. Hough proposed to undertake all this in one year as a one-man operation. He was certainly not prompted by any hope of financial gain; the \$2,000 appropriated by Congress would scarcely pay for stenographic help.

During the year, Dr. Hough circulated state officials and federal land offices. From manufacturers using wood would be obtained information about the kinds and grades

needed, the source of supply, and other pertinent questions. He engaged in extensive correspondence with European forestry officials. He also found time to travel some 8,000 miles over the country visiting lumber districts, inspecting tree plantations, calling on state officials. He visited the governors of many of the states to learn their ideas about forestry, and to urge them to put the need for forestry measures before their legislatures. Some of these visits bore fruit; in a number of state legislatures, the forest question was taken up.

In a little more than a year after he took office, Dr. Hough was ready with his "Report upon Forestry." Signing himself "very respectfully, your obedient servant," he presented it to William G. LeDuc, who, with the 1877 change of administration, had succeeded Frederick Watts as Commissioner of Agriculture.

"The author of this report," said Commissioner LeDuc in his letter of transmittal, "has compiled, with wonderful industry and apparent accuracy, statistics of the most valuable character, embracing statements of the exportation of every class of forest products from each part of the United States to each foreign country from the organization of our government to the present time, and has summarized these tables by coasts and grand divisions, and in this particular the report may be regarded as entirely exhaustive. . . . Besides the chapters which deal with statistical and strictly scientific facts, the author has a wealth of matter, historical and instructive, which will be of interest not only to every agriculturist and land owner, but also to every thoughtful person whose views of life and its duties are not bounded by the narrow limits of his own existence, or whose national pride and patriotism hope for a prosperous future for his country."

Successful forestry, Commissioner LeDuc declared, "In its very nature, necessitates an entire change in our careless methods and shifting, changeable habits, and compels us to do whatever is done thoroughly well, and to persevere in the well-doing; to select men fitted by nature for the occupation of foresters, and to secure them a life estate or a good-behavior estate in these occupations. . . . The growth of trees . . . requires a steadiness and constancy of purpose, application, and culture which has not yet received any prominent illustration in our unsteady politics and legislation."

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The report was transmitted to Congress by President Rutherford B. Hayes on December 13, 1877. Congress had not been overly generous in making the initial appropriation for Dr. Hough's work; further restrictions by the House Committee on Printing limited the size of the report to one volume of 650 pages. Publication of the statistical material was deferred. Nevertheless when the report was published the next year, Congress ordered a printing of 25,000 copies for distribution—an unusually big printing for such a large volume.

Dr. Hough's appointment was continued and Congress upped his appropriation to \$6,000. He immediately began work on his second report. It was completed in 1878. This time, Congress made no provision for its printing during the regular session. An appropriation voted during an extra session was vetoed by the President. Finally funds were made available, and the report came out late in 1880.

In 1881, Dr. Hough's tiny forestry agency in the Department of Agriculture was made a Division of Forestry. Dr. Hough received a new commission and a larger appropriation. Now at last he was a Commissioner of Forestry.

During this year, Dr. Hough went to Europe. There he studied the systems of forestry practiced in Germany, and looked into forestry education in the continental countries. His findings were published in his

third and last report, submitted to Congress in 1882.

The three reports aroused wide interest throughout the United States. They were reviewed and highly commended in scores of periodicals, and widely read by the public. Dr. Hough's reports, together with his two books, "Forestry in the United States" (1875) and "Elements of Forestry" (1881), were the standard references and the only comprehensive works on American forestry available for a number of years. Their influence was far-reaching.

Dr. Hough's reports also received much favorable attention abroad. They were awarded a diploma of honor at an international geographical congress in Venice. A prominent German university professor and officer of the Württemberg forest service remarked: "It awakens our surprise that a man not a specialist should have so mastered the whole body of American and European forestry literature and legislation."

In 1882, Dr. Hough started the *American Journal of Forestry*, the first technical forestry periodical in this country. Lack of subscribers, however, forced its discontinuance within a year.

In 1883, during the administration of President Chester A. Arthur, Nathaniel H. Egleston was appointed chief of the Division of Forestry. Dr. Hough remained with the Division, however, to assist in the

preparation of a fourth volume of official forestry reports. In March, 1885, he drafted a bill for the New York state legislature which created a state forestry commission. This proved to be his last important work. He died on June 11, 1885.

Dr. Hough's work was the starting point from which the present forestry structure in the United States has grown. The Division of Forestry which Dr. Hough had established was given permanent statutory rank in 1886. In 1891, Congress authorized the establishment of forest reserves, and the development of our national forest system began. In 1901, the Division of Forestry became the Bureau of Forestry. In 1905, the present Forest Service in the Department of Agriculture came into being—today a 10,000-man agency that administers more than 180 million acres of public forests, conducts research in every part of the country, and carries on large-scale cooperative programs with the states. Paralleling the growth of federal forestry work has been the development of forestry programs by state agencies, and in recent years a remarkable advance in private forestry.

All this great progress in American forestry over the past three-quarters of a century has been built largely on the foundation that Dr. Hough laid. A mighty oak has grown from a tiny acorn—the one-man forestry job started by Franklin Benjamin Hough.

Backwoodsmen I Have Known

(From page 5)

an abandoned trapper's cabin to ride out the storm. It was the biggest, coldest, and heaviest snow storm I had ever been in. Before morning the little 8- x 10-foot log shack was snowed in almost level with the bark roof. There were seven of us and just enough room on the dirt floor for our bed rolls and a big mud and stick fireplace. We had the carcasses of two deer our hunters had provided hanging on a scaffold just outside the doorway. Just before nightfall of the second day, Jim Hawks and his two hounds blew in. The little shack was the only one known to be in that section of the mountains and he and his dogs had come for miles for its shelter. Jim was a ruddy-faced, blond, blue-eyed young fellow with a two-weeks' beard, in his late twenties, of medium height but long of leg. He looked much more like a Carolina mountaineer than he did any Californian I had

ever seen. Lions were plentiful in the reservation and a great menace to the Indians' cattle. The state paid a bounty of twenty dollars per scalp and Hawks was doing right well in a business way.

He seemed to enjoy his way of life as much as any man I ever saw. He would get a squaw in the valley to cook him up several pones of dough-god bread and with a little salt, a box of matches, and a pocketful of cartridges would take to the mountains for a week or ten days at a time, sleeping wherever night caught him, and using the hounds in lieu of a blanket. The dogs were big, blue-ticked hounds which, when wet, as might be expected, smelled like the devil. It must be said that Jim was no rose either, wet or dry.

We crowded up and gave Hawks the space nearest the door and tried our best to keep the hounds outside in the snow but, since there was no

way to close the doorway, as soon as everybody was asleep, the wet and shivering hounds would sneak in and curl up on our chests, moving from one man to another as circumstances required. On the fifth night the storm cleared up and the moon came out. Hawks, who slept with one eye open, discovered a lion on our cabin roof, reaching out for one of the deer carcasses. Hawks fired his rifle at once and hit the lion but inflicted no fatal wound. The lion dropped into the doorway and rolled in on top of us—and pandemonium reigned. The howling dogs, Hawks, and the lion were on top of us, all over the cabin floor. Jim was afraid to shoot again for fear of hitting one of his dogs, so he joined in the fracas with his hunting knife. After a time, he managed to reach a vital spot in the lion and brought the struggle to an end. I don't know that I remember any oc-

casion in my life, before or since, that quite equaled this confusion, uproar, and excitement. All of us were more or less scratched and bespattered with blood from the lion or hounds or from Jim's hobnail boots. Jim was the only lucky man—he did not have a scratch on him and he had a twenty dollar scalp to show for his trouble.

Needless to say, we were all mighty happy when the snow melted, our Indians came back with the horses and we were free again to pursue the peaceful, quiet, and gentle way of timber cruisers.

Our Southern backwoodsman is something like his New England cousin, inasmuch as both possess a certain dry humor, are not nearly as dumb as they appear to be to an outsider, and enjoy nothing more than piercing the bubble of an outsider's pomposity. I remember such a lad on the Choctawhatchee Forest in Florida. It was in 1910 and the Service had sent in a crew to make a reconnaissance survey of that newly created forest. Since it was the only national forest east of the Mississippi River, all of the crew except a few local boys came from the West. Arthur Recknagle was chief of party and W. H. B. Kent, lovingly known in the Service as "Whiskey Highball Kent," was a visiting inspector. One night the crew gathered around the campfire for the usual after supper smoke, and the conversation took the turn of recounting the different nationalities that were back of the genealogy of the various men assembled. Recknagle said that his ancestors were German; Paul Pitchlin disclosed that he was one-quarter Cherokee Indian; a lad named Haverty spoke proudly of his Irish ancestry; a local cracker boy, named Marvin Deshazo, said that his folks had told him that they were descended from Frenchmen. Kent, who was notoriously sarcastic, except on Saturdays, was silent, and finally Deshazo rather timidly asked, "Mr. Kent, what nationality are you?" Kent in his sharp manner said, "I'm a white man, what do you think I am?" Deshazo waited a few minutes and then said timidly, "Well, I didn't know, Mr. Kent; it looked to me like you might have a little Yankee blood in you." That broke up the party.

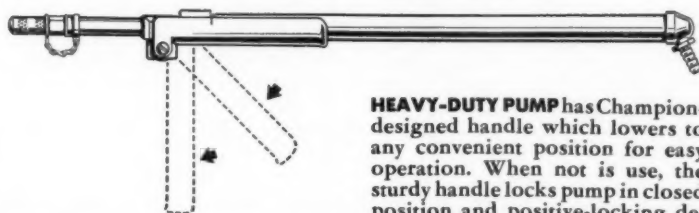
One of the characters I remember well and often think of was Manuel Brown, a swarthy, immensely strong chap who lived a few miles across Garniers Bayou from Camp Pinchot, the summer headquarters of the Choctawhatchee. We often em-

ployed him at a dollar and a half per day for jobs too tough for anybody else to handle. Manuel was locally known as "Convict Brown" to differentiate him from several other Browns in the neighborhood. He was wide-shouldered, deep-chested, bandy-legged, and his thick arms reached almost to his knees. On one occasion I asked him to pull out twenty pilings which had been left in ten feet of water after a hurricane had destroyed our wharf and the boathouse. He made a price of ten cents a pile and went to work. He would dive to the bottom, grab the pile in his arms and, with his

feet on the bottom, would pull that big stick straight up out of the mud and sand and would rise to the surface with it in his arms. I honestly believe he could stay under water, straining with all his might, for as much as three minutes at a time. When he finished the job and I gave him his two dollars, he remarked that it was the most money he had made in his life for half a day's work, and the easiest.

We tore out an old bridge across Lightwood Knot Creek and put in steel girders. The old wooden girders, some twenty feet long, of four by ten dimension, were abandoned

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on the side of the road. Manuel decided that these girders were just what he needed at his home, so he spent a whole night lugging those heavy beams on his back two miles to his place. Just by coincidence, three or four days later we sent out the usual annual notices to cattle owners in the forest to come forth and pay their grazing fees, and since Manuel owned a few head of cattle, he got one of these notices mailed in a franked Forest Service envelope. Now, Manuel could not read or write, but he could recognize an official government envelope and his conscience told him that it must have something to do with his removal of the government bridge timber so—the poor fellow spent another night packing those four girders back to their place on the side of the road. When it finally came out what he had done in the effort to keep his record straight, the ranger had the four beams hauled over to Brown's place.

After I got to know Manuel pretty well, I asked him one day, although I had heard the story from other sources, why people called him "Convict Brown," and he went on to tell me that he and his brother had been tried and convicted of murder. They had served a number of years in the State Penitentiary at Raiford where his brother eventually died and he was released on probation. He said that their conviction was the greatest injustice that ever happened. To prove it, he told me the story of the alleged crime. He said that he and his brother, both in their late teens, had gotten into a dispute with a certain mean old man who lived in the neighborhood, and decided to kill him. One night they went around to the old man's cabin and shoved a muzzle loader shotgun between the logs to knock the old man off. The old man was sitting by the fire. They drew a bead on him, then drew back to cock the gun. During this slight delay, the old man's daughter walked across the room into the line of fire and was killed when the gun went off. "Cap'n," Manuel said, "we didn't aim to kill that woman; we didn't have nothing against her. It was a pure accident and her fault entirely. We tried to tell the judge but he wouldn't hear to it; and they put us in the penitentiary for life. I never heard of a worse injustice than that, did you?"

That was forty years ago. A few years back I found myself fishing at the head of Garniers Bayou with

one of Manuel's sons-in-law, and he told me that Manuel had died a short time before, still noted as the strongest man in the bayou country. His son-in-law said that he had seen Manuel take the heavy anchor from a two-masted schooner, jump overboard with it, and walk along the bottom of the bayou for a hundred feet before planting the anchor so that the schooner could be winched around to a new course. He told me that Manuel and his brown little quail of a wife had raised eight children, put them all through the local school, and that every one of the children had turned out well. God rest you, Manuel Brown.

Finally I come to Mr. Graddy. In 1926 I took over the organization and management of Suwanee Forest, a 20,000-acre industrial property in southeast Georgia. I soon found that my number one problem was the one that Dr. Schenck faced thirty years before, when he took over the Pisgah Forest, namely, to establish locally a fair degree of sovereignty over the land we had bought and on which we paid taxes. As a step in this direction, we fenced in forty-five thousand acres of the property abutting on the Okefenokee Swamp and the Suwanee River. I knew all too well that our fence would be cut in a dozen places on the first moonless night unless some good reason could be given for its installation. We imported from Tennessee four purebred Black Angus bulls, purchased two-hundred head of piney woods cows, and announced to all and sundry that the company was going into the cattle business.

Now, we owned all of the land within the fenced pasture except forty acres right in the middle of it. This land belonged to Mr. Graddy and no cajolery would induce him to sell, regardless of the price offered. So I followed, in reverse, the old maxim, "If you can't whip 'em, jine 'em," and hired him as woods-rider for the area.

Mr. Graddy was a large, heavy-set grim-faced man in his middle sixties, who sat erect and tall in the saddle. He was taciturn, humorless, and bore the reputation of being a bad man to mess with. Possessed of a violent temper when aroused, he is said to have killed several people in his time, one of them in a knifing fracas.

For five years Mr. Graddy rode those lonesome woods on the flank of the silent Okefenokee, where his forbidding presence established a degree of security from woods burn-

ers, cattle thieves and moonshiners that had previously plagued the region. Every now and then, I would spend a day riding with him and got to be fond of the grim old man. But try as I might, I could never get him to tell me anything about his past. He had a little bright-eyed wife, part Indian, and two grown boys: Big Son, a part time moonshiner and a very decent chap to know; and Little Bud, a trapper, alligator hunter, and one of the most delightful fishing companions I have ever enjoyed. He also had two daughters: one, a quiet, sweet-faced little woman, the wife of our best logging contractor; the other, a wild and turbulent, but likable, gal who managed somehow to cause more trouble in our white quarters in Fargo than you would think any one woman could.

Mr. Graddy rode into town one morning to tell me he was quitting the job, he was sick and couldn't ride any more for me. A couple of weeks later the word came in that Mr. Graddy wanted to see me. When I reached his cabin I found him in his night shirt, sitting on the front galley. He said that he did not have long to stay in this world, that while he had been mighty wicked, he had made his peace with the Good Lord, and he was ready to go. He wanted to discuss his burial with me. He said he would like to have the fire crew, a group of five rather wild young fellows who manned the fire truck and who went helling through the woods when a blaze was reported, to bury him in the little family burying ground nearby. He wanted his grave lined and topped with brick and mortar to keep the water out, and he asked me to have the crew bring the brick out right away before he died, so he could check on the adequacy of the supply.

Then he said, "Cap'n, I want you and Mrs. Eldredge, when you get the word, to come out and spend the day with me at the burial. I don't want no preacher, nor no prayers; just sit around and enjoy yourself." Well, about a week later, Big Son came footing it into town with the "switch." (This is a reed, the length of which measures the length of the coffin, and a notch on its side, the width.) Our blacksmith made him a coffin of good cypress boat lumber. The fire crew took it out and that night the women of the family sat up late lining and covering it with black muslin fastened with brass-headed tacks. Next morning the boys stopped by and

picked up Mr. Graddy and his two sons and son-in-law. Mrs. Eldredge and I took the two daughters and Mrs. Graddy in our car over to the graveyard. There we sat around on the ground, the men to one side and the women to the other, and chatted while the boys dug the grave and lined it with brick. It was a brave, glorious spring day and the woods were sweet with the smell of red and white bay, wild honeysuckle, and magnolia from the adjacent swamp and there was courting bird music everywhere. I don't know what the women talked about, but

we men engaged in a serious discussion of the economics of shine stilling and its techniques, an interesting subject when presented by men of experience.

When the brick work was finished, we lowered Mr. Graddy into his grave, the boys bricked it over and filled it in, and after a while we all went home. I thought to myself, "So long, Mr. Graddy. You surely deserve a better horse and a safer ride in the golden pasture of the Lord."

I shall long remember him; his was the loveliest burial I ever attended.

A Sixteen-Year-Old Looks at Conservation

(From page 17)

outer banks more accessible to crowds and mobs of people.

This increase in numbers is true in almost every case of a national park. At first glance, this is good, possibly encouraging. But with the crowds come the junk stores, the trashy shops; in short, man's cluttering livelihood. This is tragic, and the price we pay will be grave. Thus, the rush to impair continues unabated. If a natural barrier exists, we build a bridge over it.

One might say that all of the previous is the inevitable "negative side" which civilization has applied to nature.

However, there is also a positive and heartening side to the advance of civilized application of man's knowledge to nature. As civilization advances, there is of necessity a presence of artificiality; thus, nature, and the creatures of nature, are appreciated more by us. I think this becomes more true every day. Where there was once an abundance of wild geese, ducks, deer, and other wildlife, there are now relatively few of them. We have seasons open for hunting; and, necessarily, we have closed seasons (for protection of the animals).

North Carolinians have fed and still feed many thousands of wild geese because of our appreciation for their beauty. In the Great Smokey Mountains National Park, bears are protected, not because of their beauty (if there is any), but because of the realization that nature must be preserved.

Once, the rivers and streams were naturally pure because the population of industries and people was smaller than present. However, they must now be purified not only for drinking purposes, but also for provision of a satisfactory living environment for fish and other water

creatures, and because we take pride in cleanliness, knowing the trenchant consequence if this necessity of anti-pollution is neglected. Let's clean up this pollution mess, now!

We have proved that we do care for nature in that we have begun on the conservation of our vital natural resources. It is undoubtedly a fact that we could use artificial man-made products in the place of trees and permit the erosion of soil, except for essential farm land. But we will not do this—nor do we wish to—because of our appreciation for the beauty of nature (and erosion of land certainly is not beautiful).

The progress we are making is good. But there is one major enemy of our good intentions—TIME. Do we have time for the slow workings of laws and the slow process of making them? Do we have time to wait for the majority of men to become enlightened regarding our problem before it is too late? We (men) move in the right direction, but the necessity to move in the right direction rapidly has never been so great as it is today in order to keep up with the advancement of civilization. The conservation movement, in my opinion, needs a more ram-bunctious element.

Now, weigh the negative side against the positive side. In order for the positive side to win over the negative side, one ingredient must be added to the positive side. This ingredient is a combination of *initiative* and *drive*. Good intentions alone do not suffice.

I, as a teenager, thank you for your foresight and ask you to speed up your conservation program for all of our natural resources and natural properties. We, today's teenagers, will carry on the job when our time comes—and I hope it comes soon. My motto is "Do It Now!"

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Miniature Forest Garden

(From page 25)

As for her work during the winter, and many of her commissions for Miniature Forest Gardens come during the year-end holidays, she keeps her stock of plants alive in bushel baskets of earth stored in the back yard of the florist shop where she works. A heavy coating of snow two or three times a season does them no harm, and in fact, keeps them fresh and clean. All she has to do is remember which bits and pieces are in which basket.

Of the evergreens, Mrs. Martin says she uses mostly hemlock, juniper, spruce, pine, and balsam, and that sometimes they grow so rapidly in her bowls that they must be cut back with scissors, so that they will remain in scale with the rest of the plants.

She uses many types of moss, but the shining club moss, and the princess pine, both lycopodiums, she points out, are true descendants of the forest primeval, and once grew to be from 50 to 75 feet high. Today they are seldom more than a foot high.

Others are the hairy-topped moss, feather moss, and the red and green sphagnum—the same used in surgery for dressing wounds. Also, she uses in her bowls reindeer moss, which grows all over the world, and is the principal food of reindeer. It is believed this moss was the manna mentioned in the *Bible*, with which the Children of Israel were fed.

Among the other plants in the Miniature Forest Gardens are the partridge berry, a shiny dark green vine with red berries in spring, and tiny white, waxen flowers.

Still another plant used frequently is hepatica, which has small, heart-shaped leaves and pale blue or white flowers.

The plants she uses are, naturally, native to the northeastern part of the country, but she sees no reason why similar plantings could not be made in other states, using different plants, providing most of the seedling trees are evergreens which, of course, do not become barren part of the year.

"The Happy Struggle"

(From page 15)

tank car from two miles away. What a hole to fill! He gave up and borrowed a half mile of pipe from a contractor which he laid temporarily to a small stream that only runs in spring and finally got the pool filled.

Just about then the State Department of Health said that our old camp sanitary outdoor facilities had to be changed as the camp was growing. They gave us a year's grace to make the changes; but where was the water coming from? That was the big question.

In school now it was no longer the style to teach biology but rather general science, so I changed, too. I found myself getting more and more interested in the unit on water. As I explained water tables on the blackboard I was thinking about camp water tables in the shale and only one spring on the pinnacle. Year after year I had watched all the water run off and the shale and clay crack as it dried out. Why teach something if it wasn't true?

Prior to this I had tried digging a hole in the only soggy area we had and the two men and a horse with a dump pan had given up. The ground was too hard. Nevertheless,

a little water did seep in and remain. Early the next year I persuaded a farmer to bring his tractor with tines on the front and take up a larger area. By noon he had gone home. The clay was too much for the rubber tires, no traction, but a bit bigger puddle. The war was over now (1946) and we managed to find a young man just starting out in business with a bulldozer. He had had the experience of running one while he was abroad. We worked around the old spring being careful not to get near enough to stop up that supply and this time the right kind of horsepower piled up a dyke high enough to hold enough water for our sanitary facilities plus the necessary water to fill the pool each year. Early morning campers began to see raccoon and deer tracks in the mud, no doubt migrants from Thatcher Park which joins our land on the west.

We have continued with our bulldozer friend, George Snyder. He has built seven connecting ponds down our valley so that the water from this forty acre watershed can be used over and over again. Twelve million gallons will run down during the

spring and summer. (Two other ponds were dug in this ten year period—a total of nine in all.) Our last big pond in this series is in the process of being enlarged and will hold about three million gallons when completed.

Our Soil Conservationist of Albany County, Mr. Frank Levitt, has been helpful. He has helped us to stock bluegills and small mouth bass in the ponds. He also supplied figures and surveying help when needed. He always smiles when he says that had we asked him first he would never have recommended our trying to get water to hold in such shale. He cites us to others as a horrible example of "Where fools rush in."

Well! The muskrats also rushed up the valley and took over their new homes in these dykes. The state has helped us and advised us as to how to lower their population. We still have them. Perfect environment! Why should they move?

Friends always laugh about mud puddles and the teacups of water these ponds hold, but had it not been from reading interesting articles on other successful projects in AMERICAN FORESTS and seeing the courage displayed by so many hardy conservationists, I might have given up long ago. Together these ponds now hold back between three and four million gallons of water for camp use.

Meanwhile, trees planted in 1922 have been trimmed and many campers enjoy their cool shade.

In 1949, we joined the Forest Management Plan under the Forest Practices Act. Our Catskill District Forester, Mr. C. P. Fatzinger, gave us a map of our land and an estimate of our timber on the original four hundred acres. I quote from his report: "As you can see, how little we have and how slowly timber grows on the mountain."

Acreage	
Saw timber	3 acres
Pole timber	86 acres
Seedling-sapling	68 acres
Reforestation	56 acres
Total	213 acres

Should your foresters read this they would surely smile when they think of the vast tracts of timberland in other parts of the country, especially the beautiful stands of pine we drove through in Mississippi last year.

Our plantings now number about fifty thousand trees. We need them principally for erosion control, wildlife habitat, and windbreaks.

After seeing tree farm management in many parts of the country, my desire has been to do some selective cutting for camp use shortly under the supervision of our state advisors. We have grown to be a camp with a thousand guests a summer. In addition, picnic busloads of people use our premises every Saturday during the summer.

This past summer I was able to find a woodsman with a chain-saw and axe to hew out trails and open up some of our eight hundred acres of land. My dream goes on. I can see these trails leading on to the top of the highest point to a beautiful Cathedral Pines Area where, another year, happy campers will find a couple of teepees, tether their horses, cook their own food over a wilderness campfire, and camp out for the night.

It's a long way from a high school classroom and a teacher like Miss Wemple spending extra time with a poor freshman who knew nothing of even the common names of trees. It has been a happy struggle with the rugged rocks and a happy outlook in retirement to see our trees growing. My close friends no longer say, "Ha, ha, do you think those things will grow?" when they see new nursery trees going into the hard

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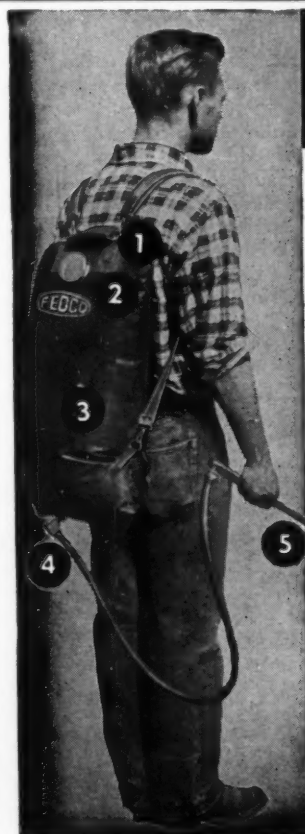
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ground. They, too, are reaping real enjoyment from those long ago plantings. I am overjoyed, of course,

with our small plantations and say, "Thank you again," to your wonderful Forestry Association magazine.

More Than One Way to Plant Trees

(From page 27)

the much-needed water hurtling down the slopes with little moisture left for the thirsty soil. So instead of draining, he dredged them out so that they are now filled with water some 20 to 40 feet deep. He has seventeen of these ponds in addition to two dams scattered over the ranch. The larger of the dams drains an estimated 450 acres and is about 35 feet deep. Both ponds and dams are scientifically constructed so that they will withhold the greatest pressure when a flash flood occurs and the water cascades down the bluffs. Trickle tubes are an additional protective measure.

As the policy of this conservationist is to plant trees wherever they will grow, he has a nice growth now around each of the ponds and dams in addition to the growth on the numerous tracts scattered over the bluffs. He has even planted willows on dykes which he built in some of the ponds for wildlife runways. The trees around the ponds keep out the silt and protect the fish, for each is stocked with such as bluegills, wall-eyes, northerns, and one with trout. The latter must be restocked every three years as trout do not propagate in such ponds.

In summing up his program, Mr. Johnson said, "For those who can devote land to such use, and have time to develop it, there is a world of satisfaction in the results." That his work is outstanding is proven by the recognition he has received from conservation officials and the Izaak Walton League.

Then there were those ranchers

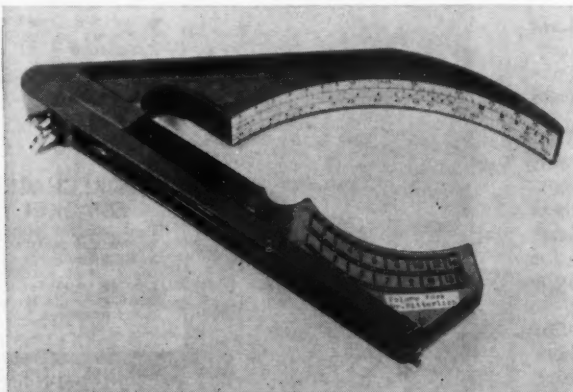
whose land abutted the Missouri River whose problems were increased when the gigantic program of building the dams along the river got underway. Their concern seemed to be not so much the loss of range acreage that the water from the dams would inundate, as to what was going to happen to the trees and brush that bordered the river and provided ideal wildlife habitat.

The Sutton ranch, operated by Jim, Ray and John, hugs both sides of the river for a distance of some 20 miles. Having lived there all their lives, they wanted to protect the wildlife that would be destroyed if it had no other place to go when the river bottom was flooded. Hence, as soon as they learned that the Oahe Dam was to be constructed, the waters from which would flood the river flats, they initiated a program that would provide habitat for the wildlife refugees. On the range that would be above the high water mark of the reservoir, they activated a tree-planting project. When completed, they had an additional 120 acres of trees and shrubs scattered over the 6,000-acre ranch. To encourage neighboring ranchers to do likewise, they themselves furnished the trees to all who would plant them. That resulted in some 600 acres that would be accessible to the game as it was driven from their river habitat.

Always conservation minded, the Suttons had earlier done a great deal of contouring and terracing. To pin down the soil in that semi-arid region they planted brakes of plum brush, chokeberries and sumac inter-

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persed with sand cherry, buckbrush, bullberries and such over the ranch. From early spring their ranch is lush with patches of big and little bluestem, green needle grass, prairie sand reed, blue gama, yucca and big top dahlia. These not only provide good feed for their growing Herefords, but excellent feed and cover for the upland game birds. The trees, now grown tall, shelter the deer that have been driven from the river. They also have some 75 buffalo and wild turkeys.

"Water, with an annual average of fourteen inches, is precious here," said Jim Sutton in discussing their program. "As a result we have some 20 stock ponds filled by the drainage from the neighboring slopes. Around these we have planted wheat grass, Reed canary and creeping alfalfa. These not only make for better grazing, but provide good nesting areas for the waterfowl and upland game birds—pheasants by the thousands, Hungarian partridges, ruffed grouse, prairie chickens and quail."

Then there is Charles Ahrens who throughout the years has carried out a well-rounded soil-livestock conservation program. His unusual accomplishment has been the creation of a 50-acre lake out of waste land. The latter had been designated by his soil conservation district as Class V. It was no good for cropping as it was too wet to plant in the spring, and it could not qualify as a marsh.

"I could not think of draining any land here where water is so valuable, thus I just encouraged water to fill that swamp area," said Mr. Ahrens.

However, that "encouragement" meant the digging of a three-inch, 125-foot deep well as well as the extension of his rural electric hi-line some ninety rods to get power to pump the water from the well to fill the lake. Out of it grew the 50-acre lake. In it he planted sago, pond weed, bullrushes, coontie, wild rice and other aquatic plants to produce

a veritable wildlife Shangri-la. There during the summer one can see hundreds of ducks on the lake and along the border are a large number of muskrat mounds. In the lake are crappies, bluegills, bass and perch.

Another was not satisfied in creating only a lake, but added an island. Fred P. Steuerwald had a swale that ran through his land. It caught the run-off water from his and a neighbor's land, and carried it off down the ravine. By dredging out the swale so that it could catch the drainage, he created a 4- to 6-foot deep lake. With the spoil dirt he built the island which is about a quarter-mile long. On the island he planted wheat grass and sweet clover to make good wildlife habitat. At the water's edge are willows and cottonwood. The island is fenced in so that the livestock cannot interfere with it, although they have access to the water.

Leon LeClaire reversed the drainage practice on his range. He brought in water from the nearby creek to create a well-watered marsh. A 70-acre slough on the ranch was of little use, but by diverting the water from the creek, he established a water level that would be stable.

This was accomplished by placing a sod block in the creek, forcing the water to flow through a 24-inch culvert inserted through the hogback that naturally separated the creek from the impounded area. A water gate atop this culvert maintains the water level in the marsh. Around it he has planted trees. Not only does Mr. LeClaire have a large population of ducks during the summer, but also a large colony of muskrats.

Thus from such examples one can learn of some of the unusual conservation measures that are carried on by ranchers and farmers to get not only higher productivity from the soil and livestock, but to create habitat to propagate and protect wildlife for the enrichment of country living.

Logging the Tillamook Burn

(From page 31)

plowed back into the operation. Reliable loggers got backing from mills that were short of logs. Some borrowed from friends or mortgaged the homestead.

The relogging outfits ranged all the way from the "haywire" operation that put out less than 10,000 board feet a day to the operator who boasted the finest equipment and logged more than 50,000 board feet. These reloggers were after a fast dol-

lar. They, too, high graded. They took only the best. Anything that would make a sound No. 2 mill log was picked up. But defective snags were looked upon with suspicion. A lot of sound wood was left.

The mills called for more of this low grade material. Defect was not too serious as long as it did not block the conveyor to the burner and the mill had to close down until it was cleared. The logger went back for



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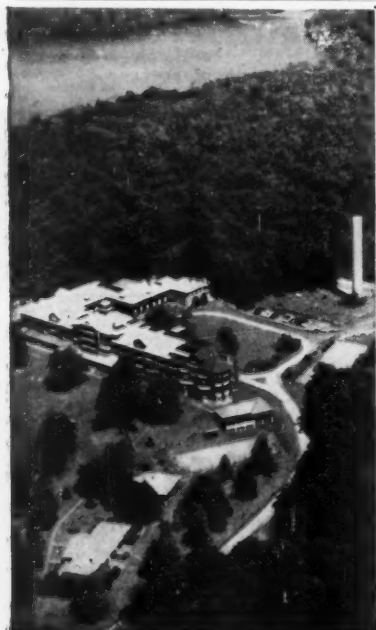
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the second relogging. Defective timber was felled and sound logs found. In addition, a lot of material that approached the cull stage was taken out. This did not bother the trucker. He was paid on a gross scale. The scaler became more liberal in his grading. The No. 1 mill log passed out of the picture and became a peeler. That jumped its value by quite a figure. And still it did not end. Some of the more optimistic loggers went back for the third time and found salable logs.

Just over the hump some of the big outfits as well as the smaller gyppos were working on the original burn. There was a lot of timber that had not been opened. The number of operators jumped from 40 during the war years to 135 a few years later.

The drone of the power saw and chatter of the caterpillar and donkey engines could be heard the length and breadth of the burn. Each day more than 500 loaded trucks hit the highway and headed for the mills and the log dumps.

Over on the Tillamook branch of the Southern Pacific Railroad that skirted the northern edge of the burn, specially built logging trucks brought out from 12,000 to 15,000 board feet at a single load over private roads. That was three times the amount allowed on state highways. The logs were dumped along the Southern Pacific tracks and reloaded onto flat cars. In the evening from five to seven steam locomotives would hook onto a long string of loaded cars in a push-pull pattern

and head up the Salmonberry River towards the divide and on to the Willamette River log dumps.

The engineers would hit the grade with the throttle back near the last notch. The explosive exhaust of the locomotives shook the tall trees along the canyon walls a mile away. The noise could be heard the full length of the canyon. This exciting and resounding phase of logging the burn ended when two or three comparatively soft-voiced diesels took over the task of the steam giants.

It took a rugged bunch of men with a lot of ingenuity to get the round stuff out of the woods. The shows ranged from easily logged rolling hills that often marked the higher elevations, to the rugged canyons that dropped off a thousand feet in half a mile and were often broken by 100-foot high rock cliffs. But the logger never sidestepped. He took all the sound timber.

At times he would get away from costly road construction by "swinging" the logs. A skyline would be run from the top of the spar tree at the landing 2000 feet down in the canyon to the top of the tail tree. The engineer would let a donkey down by means of the mainline and haulback. There it would yard the timber to the tail tree that could be reached with 800 to 1000 feet of line. Up on the landing the swing donkey would bring the logs out over the skyline.

Finally the sound of falling snags and the hearty exhaust of the power equipment began to fade. Trucks were thinning out on the highways. No longer would the automobile driver rage in frustration as he tried to get around the slow moving trucks as they headed for the Wilson River summit of the Coast Range. The reloads on the Southern Pacific and Great Northern closed down.

The big time logging in the Tillamook burn was coming to an end. The Washington outfits went home and mills depending on burn timber closed down. Loggers were moving out of the burn. By the end of 1959, only a single block of the original burn was left. This was 15 million board feet on the northern edge of the burn. It went on the block in December of 1959. The last truck load will soon go down the canyon.

The curtain will soon ring down on one of the logging classics in the state of Oregon. Never in the history of the country has such a huge timber salvage project been carried out.

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Multiple Use Is a Reality

(From page 19)

national parks are only just beginning. The Mt. Hood National Forest in Oregon, for instance, is truly a peoples' forest; situated at Portland's front door, it provides recreational opportunities seldom found in such abundance. The hunter, fisherman, camper, skier—yes, and even the mountain climber, can find pleasure to spare a few miles from home. Its 2.7 million annual visits by forest users bears out the great recreational demand.

It is evident that many areas throughout the forest must be managed primarily for their recreational value. This may mean the development of campgrounds, picnic areas, swimming beaches, boating areas, ski areas, and various other types of outdoor activity. It may also mean simply the protection, and in some cases the improvement, of the scenic values. Because of the heavy and ever-increasing demand for recreational use, and the great demand for production of timber products, it is evident that some areas on the forest must produce maximum returns in both of these activities consistent with good, sound land management principles.

Timber management practices in recreation areas must be modified to enhance the recreational values and protect the forest users. Trees that interfere with normal recreational use and that grow old and die, and become a hazard to campers and picnickers, are removed to keep the forest healthy and beautiful. Under multiple use management, much of the area that has high recreational values can also produce a substantial amount of timber products, without detracting substantially from the recreational values. This is multiple use and we are producing from the area more in total benefits than a single use could produce.

In the areas primarily designated for the production of timber, recreation is given attention. Streamside strips are provided to protect the stream and provide a good habitat for fish and small game.

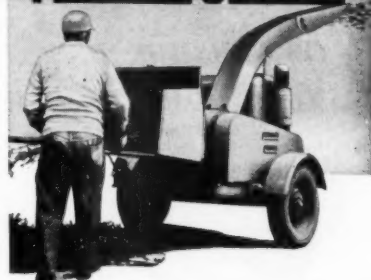
On the west side of the Cascades in Oregon where timber harvesting operations have been going on, deer populations are increasing. In order to live, stay healthy, and reproduce, deer need abundant, good food. Timber harvesting increases deer feed, increases deer population, and increases accessibility for the hunter. Here we have coordinated use, two

complimentary uses which give us greater total benefits.

Water from the national forest is a product which, to be most useful, must be clean and free from sediment and pollution. For example, the Mt. Hood National Forest supplies the domestic water supply for approximately one-third of the people of the state of Oregon. The main source of water is the Bull Run River, which supplies the Portland metropolitan area its domestic water supply. In this area, the production of abundant quantities of water take priority over all other national forest uses. This does not mean that no other use can be permitted. Timber harvesting with adequate provisions to protect the purity of the water is a logical and complimentary use. Under the present road construction and timber harvesting program for the Bull Run and other watersheds on the Mt. Hood National Forest, the areas are supplying both water and timber—a true example of multiple use.

Throughout the national forests wild and wilderness areas have their place in the multiple use management plan. Areas have been set aside and are being studied for designation as wild and wilderness areas. About ten per cent of the national forest land in Region 6, which includes national forests in the states of Oregon and Washington, is set aside as wilderness, wild, or primitive areas. It is evident that certain other uses must be rigidly restricted in wilderness areas. Without certain restrictions no such area can exist, but by the same token, hunting, fishing, and many types of outdoor activity usually associated with wilder-

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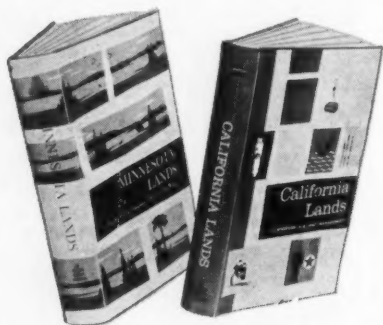
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ness experience are permitted. These uses are guaranteed under the regulations which prescribe the establishment and protection of these areas.

Some writers suggest that multiple use management will not work, or that if it will work, it is undesirable. Invariably, these authors then proceed to contrast wilderness recreation with timber cutting. They point out the incompatibility of the two uses—a point with which no one disagrees. Some even suggest that recreation along the roads, in picnic areas, at swimming beaches, ski areas, and the like is not true "out-door recreation."

I have tried, by citing these few examples, to demonstrate that multiple use management is a fact, and not a fantasy. It is something you can see and experience for yourself. It's a positive land management approach, and not an idealistic objective. It can, and is, working on your national forests.

There is an ever-increasing demand for more timber, more recreation, more water, more wildlife, and more livestock grazing. There simply is not enough public land to satisfy all of these needs. Competition between uses and user groups is bound to develop and to intensify in the future. It becomes increasingly apparent that this growing need can most nearly be met by multiple use management. Failure to recognize this fact will result in pulling and hauling of the various users.

There are about one hundred and eighty million acres of national forest land in these United States, roughly, one acre for each of us. Would the best interest of this one hundred and eighty million owners be served if each promotes his private use on his acre, or should we manage them all together for the maximum production of all the various goods and services that can come from the land? I believe that multiple use management is the answer.

It has been said "that we cannot have our cake and eat it too." This is certainly true, but in my judgment, multiple use management comes the nearest to it.

They Laughed at Us

(From page 22)

with the department bear several layers of scar tissue in mute testimony. Nothing can be so soul-searing as to stand up year after year and preach the gospel of deer management to a public who is determined to believe

that one's motives are to kill the last deer; nothing more discouraging than to be refused support by an industry which has such a vital equity in rational deer management.

Back to One Buck Law!

Needless to say, Wisconsin went back to the one buck law. During the interim the department published its Pittman-Robertson findings on deer, the collective work of some dedicated personnel.

This publication no doubt had a bearing on the legislature's passing a law in 1957 known as the PARTY PERMIT. It was a modernization of the old camp meat idea. Four hunters were allowed to band together in purchasing a \$5 permit to kill one doe. This was in addition to the buck each was allowed to take under the general big game license. The weakness of this legislation was the fact that no hunting quotas could be established. The number of hunters requesting a party permit could not be limited.

It was about this time that industrial foresters suddenly discovered that deer were having an adverse effect on sustained yield, and, therefore, upsetting the charts on future tonnage for the mills. In other words, deer could be a factor of profit and loss in the paper and lumber business. All this had been blueprinted ten years before but ignored or laughed at. Yes, to be downright blunt about it, "They laughed at us!"

By the fall of 1960, with the party permit in effect for three seasons, one paper company and a lumber company had gone all out to encourage deer hunting on their forest lands. But already the resort areas were grumbling that the party permit was taking too many deer, and the 1960 season with bluebird weather and no snow produced a light kill. The age old tearjerker, "All the deer have been killed," again became the mournful lament throughout the North.

With 1961 being a legislative year, some legislators saw political hay in this turn of events, and against a long tradition of the Conservation Commission establishing game and fish regulations, they arose to "safeguard the rights of citizens against the perfidy of game and forest experts."

The department began its legislative year of 1961 by asking for a law wherein the commission could limit the number of deer hunting permits in any given area. Whether they get this type of legislation is problem-

atical, as amendments have been added to abolish the old party permit system, and if the newer quota system is adopted, it has been amended so that it will not become effective until 1963.

Conservation troubles seem to run in cycles, and this being the cyclic year in Wisconsin, the department suddenly reversed its field and has recommended a one-buck season to the commission. This, however, has left some of the department's most steadfast supporters in a state of bewilderment, as evidenced by an editorial written by Mel Ellis, a highly regarded outdoor writer for the *Milwaukee Journal*. Ellis titles his editorial: "'Jumping Bean' Conservation Policies."

He said:

"Betting on which way the Wisconsin Conservation Department is likely to jump is like trying to make book on a Mexican jumping bean. . . . Nobody knows today what the department will recommend tomorrow.

"One year ago the department was emphatic on the need to curtail Wisconsin's deer herd. . . . It asked for a liberal season with doe shooting permitted under the party permit. Last week it jumped back over the fence and recommended a buck season, despite the fact that the 1960 harvest did not come up to expectations.

"... It went to considerable expense to present statistics, graphs, and articles to prove that the deer herd was still large enough to provide hunters with a liberal season, including shooting of does in some areas.

"Then suddenly, poof! The wind went out of its sails, and last week it was ready to settle for a buck only season."

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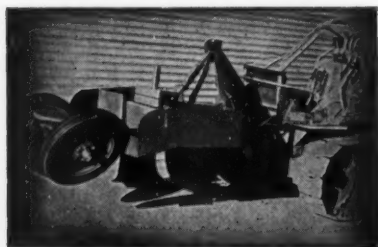
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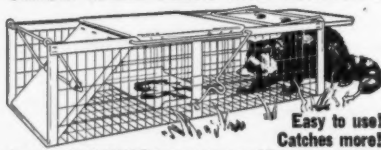
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Maybe some of the boys have battle fatigue; such a condition can develop in this crazy business of conservation. And maybe they would have tied a knot at the end of the rope and hung on a little longer if the rebellion of which Mr. Hurd speaks had developed substance.

After all, the paper and lumber companies own substantial holdings in those areas where legislators are protesting loudest against "deer slaughter." It would seem industrial foresters have neglected the big selling job at the local level, pointing out that timber and recreation can be made compatible if properly balanced—that both mean jobs and prosperity for the future.

They should be the first to recognize that ecological changes are going on in Wisconsin's forests, which all the king's horses and all the king's men and all the resort interests cannot hold back. The forests are growing up, therefore less understorey and less deer feed. With each year's increment, more timber is being harvested. These cuttings are beneficial to deer, but too many deer can be a liability against the future in overbrowsing reproduction.

Rotation cutting which will benefit deer has been worked out between the department and the For-

est Service up to 1980, but such planning has hardly been started on the state-owned or county forests, strange as it may seem. On private holdings it is simply a matter of luck or chance if cutting cycles are conducive to wintering deer. Many productive wintering yards of ten or twenty years ago have been utterly destroyed and no longer hold any deer. Therefore, the animals starve or seek new range to overbrowse.

Because of yard damage and the timber maturing, the annual herd increase in northern Wisconsin has dropped from 30 per cent to 20 per cent. Unless the forest and game technicians explain and keep on explaining these changes, the man on the street will never understand why the deer herd is bound to decline. He will only shout the louder for closed seasons.

Under present circumstances, Wisconsin could temporarily slip back into the dark ages so far as sane deer management is concerned. If that happens, who picks up the pieces and starts over again? Today industrial forestry has too big a stake to stand aloof and they are somewhat late with their rebellion. Foresters have got to become a part of the team. The time is right now at the community level and with their legislators.

Big Land from Out of the Sea

(From page 38)

barrier the Kings built. It was full when Jedediah Smith and his party of trappers came to its shores in 1826 and named it "Two Larres." There were 20 Indian villages, then, along the west shores of the lake and wild mustangs ranged the hills and plains around it. There were deer, elk, and grizzly bears galore, and many more Indian villages on the east shore.

In 1854, Judge Atwell became the first farmer on the lake when he established a hog farm on an island, thinking to save fencing. In a sense this venture was a failure because the hogs adjusted too well to the conditions of their new home. They saw the ducks diving for clams and soon the hogs learned to swim out, dive, come up with 3 or 4 clams, and chew them down to the last shell; they refused all other feed and the resultant pork tasted nothing like pork should.

As the irrigation districts along the rivers began to take more and more water, the lake receded. Under the Swampland Act the land recovered could be purchased for \$2.50 per acre with only 20 per cent down.

Settlers quickly moved in and the first levees were built by plowing around the fields. The land was exceedingly rich, often producing 40 sacks of grain to the acre, and needed little leveling for irrigation. But sudden floods frequently washed out the year's crops; the levees had to be built higher and wider and, as the lake dwindled and the deeper areas were reclaimed, the costs mounted. No one man could foot the bill for such endeavors so reclamation districts were formed. Miller & Lux formed the first of these and a group of financiers from Los Angeles purchased 32,000 acres along the east side of the lake basin and reclaimed the area surrounding the present city of Corcoran where the largest grain elevators west of the Mississippi and the largest cotton gin in the world are located.

For 60 years after the lake first went completely dry in 1898, the property owners fought a continuous battle against flood. Five times prior to 1938 all the water was held out of the great basin and five times

(Continue on page 59)

AFA OUTFITTERS

When the Trail Riders of the Wilderness leave U-Bar Ranch, Neola, Utah on July 6 and begin the climb of 5000 feet to Chain Lakes in the High Uintas, the 244th AFA wilderness expedition will be on its way. The Bob Davises will make this 10-day trip a memorable experience. Fishing is great in this fascinating area.

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The Bob Marshall Wilderness, Montana, will be penetrated by wilderness enthusiasts under the able guidance of a popular western rancher-outfitter known in that country as "Buff" Hultman. Facilities of the 33-Bar Ranch will be enjoyed before and after the ride.

The San Juan, Colorado expeditions, scheduled earlier this year, are filling nicely, too. Joe Hotter and his assistants will greet those who elect to ride the high, narrow trails in this primitive region.

Forest Service officers in Redding, California and our packers, Nate and Ethel Steele, look forward with delightful anticipation to showing Trail Riders the scenic and colorful Salmon-Trinity Alps Wilderness. This trip is at a lower elevation than the Mt. Whitney, California expedition. You will enjoy the thrilling ride in the Mt. Whitney-High Sierra country with Charles Morgan.

Ted Frome, our enterprising young lawyer-rancher, will be ready to travel with the parties exploring the Yellowstone National Park and Teton wilderness areas in Wyoming. And Walt and Nancy Lozier, of the Open Box R Ranch, anticipate the arrival of Trail Riders signing up for the popular Wind River, Bridger Wilderness, Wyoming rides.

The scene of the last trip in the program is the beautiful and unspoiled mountain retreat in the Pecos Wilderness, New Mexico. Santa Fe, the rallying point, is an experience in itself for those interested in Southwestern Indian and Spanish culture. Mountain View Ranch, Cowles, New Mexico will outfit the September expedition.



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JULY 17 TO JULY 28; AUGUST 8 TO AUGUST 19
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Big Land from Out of the Sea

(From page 56)

it broke loose and tore everything before it except the shallows around it. Then, in 1938, the Kings went wild and spilled into 143,140 acres; it took 8 years to win all this land back with the use of men, machines, and fortunes, plus a lot of grim determination.

Now that Pine Flat Dam sits astride the Kings and, with dams under construction on the Kaweah and the White, it seems the land-owners can rest easy behind their levees.

As one travels westward from Corcoran he travels upon the levees; he travels through a country vast and fertile and strange, with the sound of machines upon the air. It is hard to see here the lake "Two Larres" of Jedediah Smith or even the vast shallows of tule lands where the courageous rascal, "Pegleg" Smith, drove stolen horses to island hide-aways. It is hard, too, to see Judge Atwell's hogs dunking for clams, or the thousands of waterfowl that wintered here. Yes, it is hard to see these things, but it is worth trying.

Preserving Natural Areas in England and the U.S.

(From page 6)

collection is being formed largely from valuable paintings which have been left mouldering in damp cellars, salvaged out of fires, slashed by lunatics, painted over in ignorant efforts to improve them, or cut up into several different pieces. Such an administrator, however aesthetically dedicated and reluctant to interfere, would inevitably find himself wanting to know more about the techniques of conservation and rehabilitation. Thus the conservancy's scientific and conservation functions both combine to dictate a strong accent on research."

The conservancy originally compiled a list of 140 areas, covering roughly 350,000 acres, to be designated as natural areas. To date, some 85 national nature reserves totalling over 140,000 acres have been wholly or partly acquired and declared with Crown Land status. Ten other areas, including 50,000 acres, are in the last formal stages before declaration, and there are nearly 50 others at earlier stages; most of these are relatively small. In addition, local authorities, in consultation with the conservancy, have created seven statutory nature reserves which are managed along similar lines, and the Forestry Commission and other public agencies have placed at the disposal of the conservancy seven forest nature reserves.

"The Nature Conservancy view it as their task," Mr. Nicholson concluded, "to get in touch with all who are interested in the land and in its conservation, including the educators, and to act as a leaven in bringing about a better appreciation of these matters and as advisers and helpers, especially for pioneer or demonstration schemes. There are

encouraging signs that other public bodies, such as the British Broadcasting Corporation, the Forestry Commission, and the National Parks Commission, together with such voluntary organizations as the Council for Nature, the National Trusts and local trusts, and the Councils for the Preservation of Rural England and Rural Wales, as well as many people of goodwill and public spirit scattered through the country are ready to cooperate in this work. The conservancy regards itself as just one of the visible expressions of a growing national concern for a better future for land and scenery and soils and water and wildlife, both at home and elsewhere in the world. It is their aim by all means in their power to strengthen the team spirit and to foster growing points and voluntary enterprises rather than to develop as a self-contained isolationist group."

Following Mr. Nicholson's address, Edward H. Graham noted three lessons that we can learn from the British. The first, he said, is that



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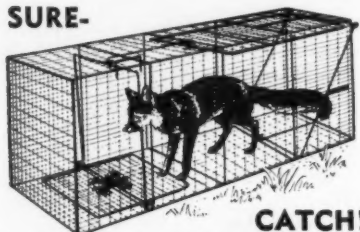
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we need to develop a sense of what they call "amenity."

"I do not think it would have been possible to establish the Nature Conservancy during the trying years after World War II," Mr. Graham said, "unless there had been a compelling resolve on the part of many Britons that some of the world be kept pleasant and agreeable. Not only the British, but many Europeans talk of landscape preservation, a term we do not use. They have in mind a landscape created by man, and of which man is a part, but they are sufficiently sensitive to the world around them that they do not want it unnecessarily disturbed."

Mr. Graham isn't sure how we can develop this sensitivity except consciously to talk and teach more about the beauty of nature, and of its inner satisfaction. However it is done, he thinks we shall have to do it in our own way, as we are not likely to have a counterpart of the Council for the Preservation of Rural England.

The second lesson observed by Mr. Graham is to be found in the education received by the personnel of the Nature Conservancy. "The emphasis given by the conservancy to research, inter-disciplinary teamwork, and ecological relationships, as well as its success in establishing a facile government institution with a pronounced economy of administration and flexibility of arrangements for establishing reserved areas—these things result in large part from the knowledge and attitudes that have been gained from the total educational experience," he said.

Unfortunately, in the United States we have leaned upon technicians, Mr. Graham believes, personnel who have received their education almost exclusively in specialized fields in which they are employed. Consequently we have relied heavily

on technicians for professional leadership in resource fields. However, he said, "We are probing possibilities of turning out more rounded graduates in the resource field by adding an additional year of studies in the humanities that is superimposed on several years of specialized training. Fortunately, there is growing recognition that we have had the cart before the horse too long and that we must correct the error."

The third lesson revolves around the fact that the Nature Conservancy looks upon its nature reserves as outdoor museums in which to conduct ecological, field-based research with strong laboratory support. In some cases, the Nature Conservancy considers an area so important for its scientific use that public access is prohibited.

Why so much stress on the scientific study of these natural areas? Mr. Graham said, "They do not draw a sharp line between research and the application of knowledge. What is learned, however abstract at the moment, is considered to have an ultimate practical value. There is recognition of the fact that the more we know about what goes on in nature the better we might cope with the problems that exist on the land, whether that land is devoted to farming, ranching, forestry, urban development, or the management of natural areas themselves. The study of natural reserves can serve as check areas, as bench marks, as controls for the practice of land use on areas of comparable soils, climate, vegetation, and physiography."

Another speaker, Professor Stanley A. Cain, said that he believes the greatest weakness of the American system of natural areas is the greatest strength of the British Nature Conservancy. "We lack a broadly based, well-financed program of ecological investigation of natural areas," he said. "First, we need such a program because it lies behind adequate means of interpretation to the public of nature and the significance of natural areas. A stronger interpretation program, based on research, would not only enhance the pleasure of the visitors to national parks and other natural areas, but would also broaden the base of public support for the perpetuation of natural areas when conflicting users seek to pervert them to their own ends. In the second place, the fruits of a thorough-going ecological research program on natural areas would, I am sure, provide invaluable suggestions for better management of other lands for more common-

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place, materialistic ends."

However, Professor Cain observed one difficulty. "We have so sold, perhaps over-sold, protection of nature in national and state parks, which contain some of the finest relics of natural conditions, that manipulative research is precluded under present policies." He suggested that

perhaps to avoid weakening the policy of protection, we should seek, as has the Michigan Natural Areas Council, the establishment of "natural research areas," to join its sister categories of "nature study areas," "natural area preserves," "natural area reserves," and "natural scenic sites."

Reading About Resources

(From page 23)

the finest handbooks ever prepared. All scientific and common names have been brought in line with those given in the USDA Agriculture Handbook No. 41. Other revisions and corrections have been made. The clarity of the illustrations is unequalled, and the arrangement of data is simple enough for a child to understand. My enthusiasm in this instance is unbridled. This is an essential book to own.

Leaving the layman's interests for a moment, the fourth of these current volumes concerning flora is W. G. Wahlenberg's *Loblolly Pine* (School of Forestry, Duke University, in cooperation with the U.S. Forest Service, 1960. 604 pp. \$7.00). Subtitled "Its Use, Ecology, Regeneration, Protection, Growth and Management," the professional depth of this work is obvious at a glance. It is the most exhaustive study ever undertaken of an urgent subject to forest industry. The chapters on management are especially pertinent. The Bibliography is worth the price of the book. This is scientific silviculture at its best.

Water problems have often been mentioned in this column, since this is a subject that lies close to the heart of wise resource management. Two new books warrant note. One is *Water Purity* by Earl Finbar Murphy (Univ. of Wisconsin Press, 1961. 212 pp. \$4.75). Defined as "A Study in Legal Control of Natural Resources," it is actually limited to an examination of the development of legal restraints on the water supply in Wisconsin. The work is tiresome and authoritative. Footnotes are voluminous. It is a specialist's book by a specialist, useful without being fundamental to our literature.

The second water volume is no less, but absolutely no more, than its title suggests: *Proceedings of the National Conference on Water Pollution*, December 12-14, 1960. Published by the Public Health Service of the U.S. Department of Health, Education, and Welfare, this tre-

mendous compilation of talk, available from the Government Printing Office for \$2.25, is an inexpensive substitute for the hard business of sitting out an affair of this kind.

I would not bother with it, if I were you. However, by all means order the very attractive Summary Report, *Clean Water, A Challenge to the Nation*, Highlights and Recommendations of the National Conference on Water Pollution. This lifts out most of the meat in the much, much larger *Proceedings*, providing a wealth of stimulation in as palatable a way as one is likely to find. An excellent job.

Two large and handsome paperbacks deserve far more mention than there is space for them. They are *Forestry in Japan* (Forestry Agency, Tokyo, 1960. 64 pp. No Price) and *Switzerland and Its Forests* by Fritz Fischer (School of Forestry, Oregon State College, 1960. 56 pp. Free). Both books are beautifully illustrated, pointing up in their contrast the innumerable superficial differences as well as the fundamental similarities between forestry in two opposite sides of the world. They are easy to read. They are compellingly attractive. It would be a pity for any person concerned with forestry beyond his own nose to pass up the broadening inspiration that these volumes offer.

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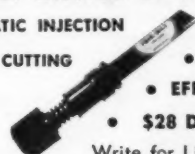
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How Wild the Wilderness

(From page 35)

tion as "wilderness" under Regulation U-1 by the Secretary of Agriculture.) Nearly half of the area, about 190,000 acres, is within my ranger district. The terrain is beautiful and spectacular granite mountain country, ranging from around 8,000 to nearly 14,000 feet in elevation. It is served by 12 large pack stations entering the area from both sides of the Sierra. I have observed a growing use which now amounts to about 12,000 visitors each summer.

When I reported for my present assignment in 1952, the forest supervisor instructed me to start cleaning up the back country and to plan how it should be cared for. Since that time, I have supervised a varying degree of management effort through the use of back country recreation patrolmen employed during the summer. In 1957, an inspection trip with the regional forester and the forest supervisor provided the opportunity for us to sit around a campfire a mile off the John Muir Trail and discuss the problems of such wilderness places. A result was that in 1958 finances were provided to carry on an administrative study of the problems and possible management procedures. Most of this intensive effort has been concentrated in the Bear Creek drainage, which is a beautiful 40,000-acre section traversed by the John Muir Trail and representative of the wilderness area as a whole.

In the American way of life, I assume that virtually all public lands will be open for enjoyment by anyone desiring to go there. Furthermore, I assume that as the population increases, there will be a corresponding increase in wilderness visitation. Here, then, is the crux of many existing and future wilderness problems—a primeval environment becomes increasingly difficult to maintain in its primeval state with growing human use.

I see many evidences in the High Sierra of human use encroaching on the natural environment. The most serious effect, in my opinion, is the condition of the trails. Tons of soil are washed off trail treads every year, especially through the meadows. Paralleling trails across meadows of varying ages and corresponding depths are common. Most wilderness area trails developed from early Indian or stockman routes, and are simply not located or constructed to

handle present day recreation traffic any better than two-lane highways could handle present transcontinental auto travel. Trails should be relocated out of meadows and other critically fragile areas. They must be entirely rebuilt in many cases on gradients which will allow adequate control of water runoff. The main thoroughfares, such as the John Muir Trail, will soon have to be surfaced to withstand the heavy saddle and pack stock traffic. Trail relocation implies, of course, an encroachment on true wilderness conditions. The same is true of the mechanized machinery, essential in most cases to adequate and efficient trail construction work in the process of relocation.

It was mentioned earlier that 12 pack stations commonly use the 190,000-acre portion of the wilderness area which I administer. These stations have an average of sixty head of stock. During hunting season, this commercial use is supplemented by several hundred head of private stock. The recreation animals are coming into serious conflict with permitted cattle grazing in some parts of the wilderness area. The number of permitted cattle has greatly decreased in the high country, due in part to this conflict with the recreation use—a use which allows the land to serve many more people.

Within the wilderness, the recreation stock is not evenly dispersed for grazing. Certain areas have better or more convenient meadows, more famous and well known names, and better fishing or hunting. Pack animal grazing and use tends to concentrate in these favored places with overgrazing a common result. One solution is the elimination of pack animals. Less drastic measures are limitations on grazing in critical localities, more use of lesser known areas, and increasing emphasis on more efficient commercial pack stations accustomed to proper distribution of stock to achieve satisfactory grazing distribution.

You have no doubt seen photos of tin can accumulations in the back country. Perhaps you have seen these distressing sights in person. Here again, the extent of this back country "debris" is directly related to the human use the country receives. I feel the huge piles of cans show a lack of foresight covering several decades on the part of us all—

visitors, packers, and administrative agencies—concerning the magnitude into which this situation could grow. On my district it is evident that can and refuse burial has been unsatisfactory. High mountain soil is usually too shallow to dig an adequate hole; animals dig up the refuse; and, at best, the sod ground cover is often visibly disturbed if burial is attempted. Can pits are also unsatisfactory. They require considerable effort to dig, they present an unpleasant odor, breed disease, are unsightly, and must be periodically and expensively replaced. The logical answer is to clean up debris initially with public funds, and then aggressively educate visitors and enforce a system of packing all unburnable refuse back to garbage cans at the road ends. Here again it takes time, money, supervision, signs, literature, and contact with the users by the administrative agency. We have done all this in Bear Creek and are satisfied that it can be done on a wilderness scale.

What is your desire for a campsite? Do you want to camp anywhere and anytime you please? Quite a number of people, especially the cross-country backpacker, have this desire, but I question whether we can much longer allow completely unrestricted camping. Every new campsite leaves a fire scar and usually a visible rearrangement of the area from the natural. Unfortunately, most campsites seem to cause new refuse piles. Perhaps you want only the rustic and crude structures built by previous campers. I feel, on the other hand, that the common backcountry camps built of old pack boxes, fruit crates, plywood panels, old shakes, or even of small native poles, are a wilderness eyesore, are a playground for rodents and insects, and do not contribute in any way to a conscious or subconscious effort on your part to leave the area cleaner than you found it. In contrast a camp with a split log table sawed from a dead tree, a permanent fireplace with a cooking grate, a hitch rail 100 feet or more away, a small primitive latrine screened from the camp, a simple poster board with tips to help you, and all surrounding trees clean of nails, wire, and crates, is far more in keeping with the wilderness. This simple improved camp seems to create at least a subconscious desire on the part of the visitor to leave the area clean and undamaged.

A localized depletion of fuel supplies is becoming increasingly common in parts of the High Sierra. This is also a reflection of increasing

human use. Substitutes such as canned heat and canned flamo stoves may minimize the problem in the future. In other areas, though sometimes several miles away, there is often a great supply of fuel from windfalls. Perhaps this wood could be made available to visitors for a fee. Would you consider this an unwarranted invasion of the natural?

In the High Sierra, I often see organized parties of from 10 to well over 100 people. Are large organized groups such as this in keeping with an "untouched" wilderness? I can accept the need and desirability of organized youth group travel into the wilderness in order to train, guide, and control these young people, but doubt that grownups should band together in groups of over 100, or even over 15 or 20, to go into a wilderness to experience an approximation of the primeval.

I have endeavored to stimulate your thinking toward some of the wilderness problems with which we are faced in California. In my opinion, we must accept the problems of increased visitation and take necessary steps for adequate protection of the environment and the visitors. The wilderness will not be "untouched." Instead, the heavily used areas along travel routes and at campsites must be given some degree of management. The visitor should, however, be able to walk off the trail a few feet and find the same conditions his ancestors saw 100 years ago.

I suggest that when we speak loosely of an "untouched" wilderness we must actually be reconciled and receptive to an area managed in a degree relative to the number of people who enter it. It is my opinion that only through wilderness management will the bulk of the primeval conditions be best preserved.

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Program and Schedule

Sunday, October 1

- 10 A.M.** Registration—La Fonda Hotel
10 A.M. Board of Directors' Meeting (closed)—La Fonda Hotel
Tours of the Ancient City—"Santa Fe Day"
a) Walking Tours
b) Bus Tours

Lunch at Ghost Ranch—Arthur N. Pack, Toastmaster, President, Charles Lathrop Pack Forestry Foundation

- 7 P.M.** Chuck wagon dinner at Bishop's Lodge (Santa Fe) featuring Indian dances and other entertainment

Monday, October 2

- 9 A.M.** Registration—La Fonda Hotel
10 A.M. Opening Session—St. Francis Auditorium, Museum of Fine Arts
Welcome Address—Hon. Edwin L. Mechem
Governor of New Mexico
Response—Don P. Johnston, President
The American Forestry Association
Presentation of AFA's Distinguished Service Award
Keynote Address—Hon. Stewart L. Udall
Secretary of the Interior
Luncheon—Hotel or restaurant of your choice
1:30 P.M. Field trip by chartered bus to Santa Fe ski area and ride on ski lift. Program provided by Forest Service, U. S. Department of Agriculture
Dinner—Hotel or restaurant of your choice
8 P.M. Conservation movies at St. Francis Auditorium

Wednesday, October 4

- 8 A.M.** Trip by chartered bus to Indian Pueblos, Bandelier National Monument (Ancient Cliff Dwelling Ruins) and Los Alamos.
Program provided by Bureau of Indian Affairs, National Park Service, and Atomic Energy Commission. A picnic lunch will be served at the Bandelier Picnic Area.
7 P.M. Annual Banquet—La Fonda Hotel—Informal
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Tuesday, October 3

- 8 A.M.** All day field trip by chartered bus to Ghost Ranch, Abiquiu, New Mexico (Ghost Ranch Museum and Abiquiu Dam). Program provided by Charles Lathrop Pack Forestry Foundation, Board of Christian Education of the United Presbyterian Church in the USA, and the Corps of Army Engineers. Dedication of Multiple Use Exhibit, Forest Service

Thursday, October 5

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- 2) A trip to Penasco Valley

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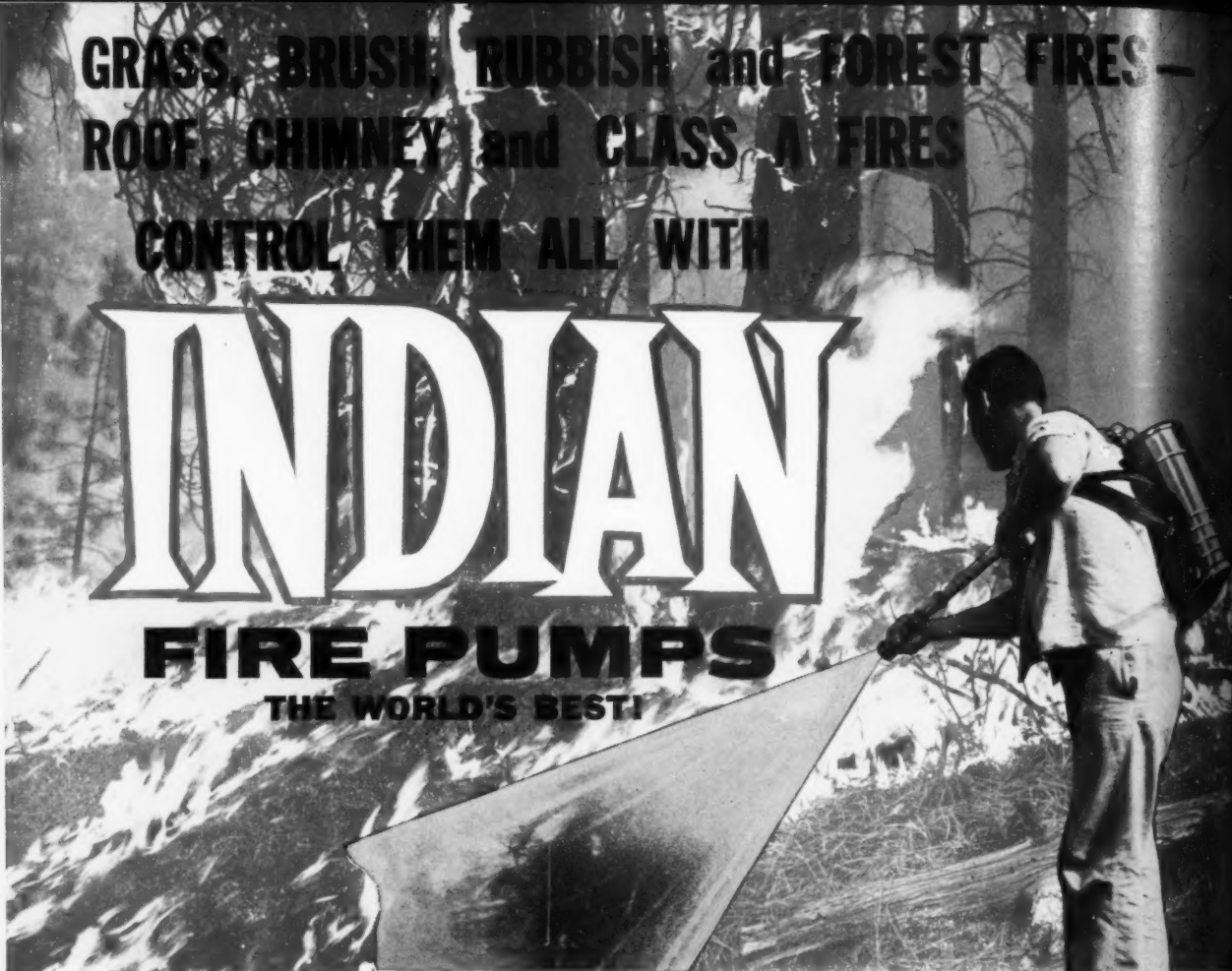
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